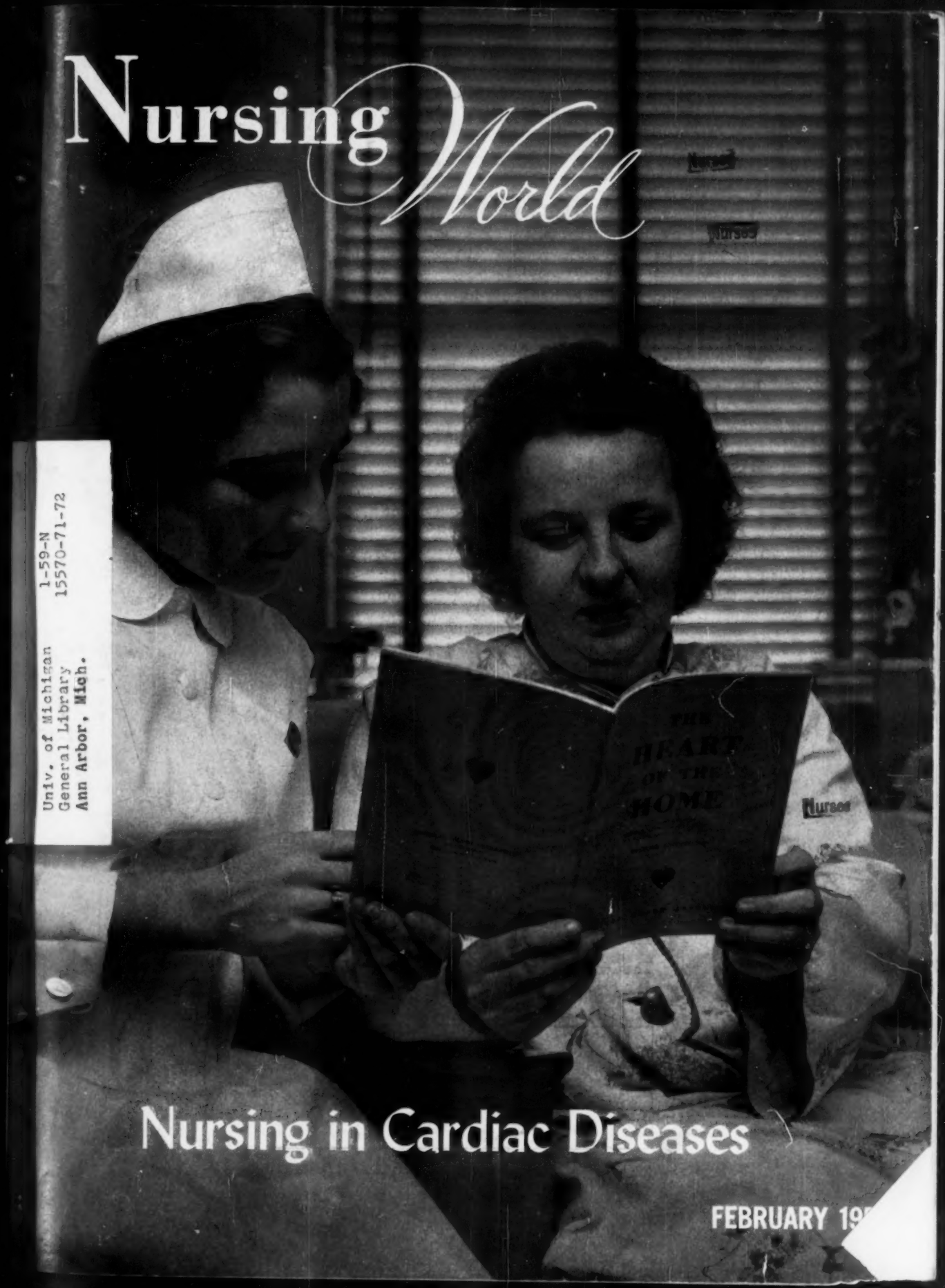
Nursing World



Univ. of Michigan
General Library
Ann Arbor, Mich.
1-59-N
15570-71-72

Nursing in Cardiac Diseases

FEBRUARY 19

little

How doctors win friends ...

The Best Tasting Aspirin you can recommend.
The Flavor Remains Stable down to the last tablet.
15¢ Bottle of 24 tablets (2½ grs. each).

THE BAYER COMPANY DIVISION
of Sterling Drug Inc.
1450 Broadway, New York 18, N. Y.

a helping hand for the practical nurse

Brownell—
PRACTICAL NURSING

By Kathryn Osmond Brownell, R.N., B.S., Member of Committee, Brooklyn Young Women's Christian Association, School of Practical Nursing, Brooklyn, New York. 512 pages, illustrated. $4.25. *Fourth Edition.*

This book clearly guides you in every duty of the practical nurse. You will find full instructions in easy to follow step-by-step fashion with handy lists of the necessary equipment for each procedure. Complete details explain care of the chronically ill, convalescent, the aged, expectant mother and the newborn. You will appreciate all these compact facts in one book—a short review of anatomy and physiology, diagnostic procedures, nutrition facts and what to do in emergencies. Helpful paragraphs at the end of each chapter summarize important points you want to remember. This edition is based on the Curriculum Guide of the U. S. Office of Education and the National Association for Practical Nurse Education.

Howe-NUTRITION FOR PRACTICAL NURSES

If you are not sure of the seven basic nutrients or what foods are included in a diabetic diet—here is quick help. This handy concise guide clearly explains the components of foods and gives their source and use in the body. Diet therapy is outlined for many common disease conditions.

You will find help on preparing menus by the day or week and how to cook all types of food. Practical suggestions are included on buying and storing food. The glossary defines basic words. The many tables make handy reference sources.

By Phyllis S. Howe, B.S., Nutrition Instructor, West Contra Costa Junior College, Richmond, California. 174 pages, illustrated. $2.50.

Hansen-STUDY GUIDE AND REVIEW OF PRACTICAL NURSING

Here is a wonderfully helpful study aid—an easy to learn outline of every aspect of practical nursing. Everyday nursing situations you will encounter are clearly described. With the help of the questions and multiple choice answers you can test your knowledge before you take your state board examinations. Correct answers are given in the back of the book.

By Helen F. Hansen, R.N., M.A., formerly Executive Secretary, Board of Nurse Examiners, California. 419 pages. $3.75.

Price-AMERICAN NURSES DICTIONARY

This book will serve you again and again. It contains all the words that belong to your nursing world whether they be medical terms, biological, chemical or pertaining to the social sciences. Each word is simply and clearly defined from the viewpoint of the nurse. All terms listed are phonetically respelled for pronunciation, syllable by syllable.

A must for your reference shelf, this handy dictionary offers you quick help with tables on arteries, bones, muscles, nerves, veins, chemical symbols, abbreviations and common prefixes and suffixes.

By Alice L. Price, B.S., R.N., formerly Counselor of Nursing School, Presbyterian Hospital, Chicago; Nurse Consultant, Hill-Rom Co., Inc., Batesville, Ind. 656 pages. Thumb-indexed. $3.75.

NW 2-56

W. B. SAUNDERS COMPANY
West Washington Square, Philadelphia 5

Send me the following books:

- ☐ Remittance Enclosed
- ☐ C.O.D.
  - ☐ Brownell's Practical Nursing. $4.25.
  - ☐ Howe's Nutrition. $2.50.
  - ☐ Hansen's Study Guide and Review. $3.75.
  - ☐ Price's American Nurses Dictionary. $3.75.

Name_____

Address_____

GENERAL ADVISORY BOARD

NURSING EDUCATION

LULU WOLF HASSENPLUG, R.N., *Dean Univ. California School of Nursing*
HENRIETTA LOUGHRAN, R.N., *Dean Univ. Colorado School of Nursing*
ELSIE PALMER, R.N., *Assoc. Director, Bellevue Schools of Nursing*

NURSING SERVICE

CATHERINE M. LOEFFLER, R.N., *Assoc. Director, Johns Hopkins Hospital School of Nursing*
HARRIET M. SMITH, R.N., *Ass't. Professor, Univ. Washington School of Nursing*

CLINICAL NURSING

TRUDE AUFHAUSER, R.N., *Ass't. Professor Pediatrics, Yale Univ. School of Nursing*
KATHLEEN BLACK, R.N., *Consultant Psychiatric Nursing, NLN, New York City*
MARGARET BLEE, R.N., *Assoc. Professor Public Health, Univ. of North Carolina*
ANNIE LAURIE CRAWFORD, R.N., *Supervisor Psychiatric Nursing Service, Minnesota*
ANNA V. MATZ, R.N., *Public Health Nursing Consultant, New York City Department of Health*
THERESA G. MULLER, R.N., *Nursing Director, Indiana Division of Mental Health*
MARY MESERCHER, R.N., *Exec. Secretary, 3rd Dist. Minnesota Nurses Association*
DONALD E. PORTER, R.N., *Program Director California Tuberculosis Association*
DOROTHY W. ROSTETTER, R.N., *Vice-Chairman Private Duty Section, District No. 13, N. Y.*

INDUSTRIAL NURSING ADVISORS

CATHERINE R. DEMPSEY, R.N., *Head Nurse Med. Dept., Simplex Wire & Cable Co., Cambridge, Mass.*
MILDRED DUNN THOMAS, R.N., *Supervisor Nursing Service, Merck & Co., Rahway, N. J.*
HAZEL E. LEEDKE, R.N., *Supervising Nurse, Thilmany Pulp and Paper Corp., Kaukauna, Wis.*
JOANNA M. JOHNSON, R.N., *Director, Ind. Nursing Div., Employers Mutuals Ins. Co., Wis.*
MARION S. MAYNE, R.N., *Consultant, Ind., Hygiene Div., Los Angeles County Health Dept.*
O. F. SHOOK, M.D., *Medical Director, Owens Illinois Glass Co., Toledo, Ohio*
MILDRED I. WALKER, R.N., *Sr. Consultant, Ind Health Div., Dept. of Nat'l. Health, Canada*

PRACTICAL NURSING ADVISORS

ELISABETH C. PHILLIPS, R.N., *Exec. Dir., Visiting Nurses' Ass'n., Rochester, N. Y., Chairman*
MARGARET BAIRD, *President, NFLPN*
EDWINA G. BARNETT, *Field Worker, Colored Nurses Ass'n. of Virginia*
FERN A. GOULDING, R.N., *Director, Indianapolis Ind. School of Practical Nursing*
HELEN HERRMANN, *President, Michigan Practical Nurses' Association*
HUGO V. HULLERMAN, M.D., *Director, Hospital Services United Hospital Fund of N. Y.*
MADELINE G. KALIN, *President, Licensed Practical Nurses Ass'n. of Rhode Island*
LULA A. SNOW, L.A., *Secretary, Licensed Practical Nurses Association of Massachusetts*
JEAN E. SUTHERLAND, R.N., *Nursing Consultant, Counseling and Placement, New York State Employment Service*
ELLA M. THOMPSON, R.N., *Assoc. Exec. Dir., National Ass'n. for Practical Nurse Education*
AMY VIGLIONE, R.N., *Assoc. Dir., Nursing Service, Kellogg Foundation, Battle Creek, Mich*
ARTHUR B. WRIGLEY, *State Supervisor, Trade and Ind. Education, Dept. Education, N. J.*

INDUSTRIAL NURSING EDITORS

LOUISE CANDLAND, R.N.
ERICA J. KOEHLER, R.N.

PRACTICAL NURSING EDITOR

LILLIAN E. KUSTER., LPN, *Assoc. Editor*

EDITORIAL STAFF

Joseph Kruger, Publisher
Virginia A. Turner, R.N., Editor
Clairece Black, Assoc. Editor
Perry Zachry, Art Director

BUSINESS STAFF

Joseph Kruger, Pres.
Henry Scharf, Exec. Vice Pres.
John H. Ferguson IV, Vice Pres.
Milton S. DuBroff, Secy.
Ruth Hough, Circulation Mgr.

ADVERTISING MANAGER—270 Madison Avenue, New York 16, N. Y.
Telephone: MUrray Hill 4-2422

Formerly Trained Nurse & Hospital Review, first published in 1888

Nursing World

An independent Journal published for all who are engaged in the practice of nursing

Vol. 130 **FEBRUARY, 1956** **No. 2**

CONTENTS

NURSING EDUCATION and NURSING SERVICE

Some Roles of Nursing in Cardiac Disease ..... *Myrtle Coe, R.N.* 7

Nurses' Workshops in Cardiovascular Diseases ..... *Betty Mathews, R.N.* 14

CLINICAL NURSING

Nursing Care of the Cardiovascular Surgery Patient *Marjorie R. Taufis, R.N.* 10

Rheumatic Fever in the Adolescent Child ..... *Ruth Whittemore, M.D., Maria Stack, M.D., and Norma J. Nielson, R.N.* 16

GENERAL INTEREST

Highlights of the NFLPN Convention ..... *Robert Smith* 18

Medical, Legal, Statistical Records ..... *S. Charles Franco, M.D.* 24

DEPARTMENTS

In This Issue 5

NURSING WORLD Reports 5

Advances and Trends in Drug Therapy ..... *Joan Sarvajic, R.N.* 19

Commentary ..... *Louise Candland, R.N.* 23

The Book Shelf ..... *Anna V. Matz, R.N.* 29

NURSING WORLD is published monthly by NURSING WORLD Publications, Inc. Publication Office, 3110 Elm Ave., Baltimore 11, Md. Editorial Offices, 41 East 42nd St., New York 17, N. Y. Telephone: OXford 7-3785. Business and Circulation Office, 814 H St., N.W., Washington 1, D. C. Telephone: MEtropolitan 8-5243. Entered as second class matter at the Post Office, Baltimore, Md., under the act of March 3, 1879. Subscription price: 35 cents per copy, $3.50 per year in the United States and Canada; $6.00 for two years; $9.00 for three years; Pan American Countries, $1.00 per year additional. Subscription rates for all other countries, $1.50 per year additional. Copyright 1956 by NURSING WORLD Publications, Inc. POSTMASTER: SEND FORM 3579 TO NURSING WORLD, 814 H St., N.W., Washington 1, D. C.

IN THIS ISSUE

COVER: "The Heart of the Home," published by the American Heart Assn., helps the housewife to simplify her tasks when she returns from the hospital. The nurse is Mary Ann McIntyre, supervisor of nursing service, Variety Club Hospital, University of Minnesota Medical Center.

Myrtle H. Coe

Myrtle H. Coe, R.N., writes about "Some Roles of Nursing in Cardiac Disease," (page 7). She earned the A.B. degree at Pembroke College, Brown University, R. I., and is a graduate of the Army School of Nursing, Washington, D. C. At present Mrs. Coe is Asst. Professor of Nursing at the University of Minnesota School of Nursing and Supervisor of Clinical Instruction for Graduate Nurse Students. She is also a member of 2 of the 3 Councils of the American Heart Association (Rheumatic Fever and Congenital Heart Disease; Community Service and Education) and a board member of the Minnesota Heart Association.

Marjorie Taufic

"Nursing Care of the Cardiovascular Surgery Patient" is discussed (page 10) by Marjorie R. Taufic, R.N., B.S. Mrs. Taufic graduated from Chicago Wesley Memorial Hospital and earned the B.S. degree at the University of Minnesota. Married to Dr. Mansur Taufic, Brazilian surgeon doing graduate work in the U. S., she is Surgical Nursing Clinical Instructor in Basic Nursing and Advanced Surgical Nursing, University of Minnesota. She will return to Brizil with her husband and year-old son in July.

Betty Mathews

Betty Mathews, R.N., describes (page 14) a forward-looking program of the Washington State Heart Association. This is instruction by means of "Nurses" Workshops in Cardiovascular Diseases." Mrs. Mathews is a graduate of St. Elizabeth's, Yakima, Wash., and earned the B.S. and M.P.H. degrees at the University of California's School of Public Health, where she is now Associate in Public Health and Candidate for the degree of Doctor of Public Health.

Maria Stack, M.D., of N.Y.U.-Bellevue Medical School, holder of a Fellowship in Medical and Pediatric Cardiology at Yale University, collaborated with Norma J. Neilson, R.N., of the New Haven Rheumatic Fever Clinic and Cardiac Program, to write about "Rheumatic Fever in the Adolescent Child," (page 16), Ruth Whittemore, M.D., Director of the New Haven Rheumatic Fever and Cardiac Program, edited their manuscript.

Dr. Charles Franco

S. Charles Franco, M.D., F.A.C.P., is Associate Medical Director of the Consolidated Edison Company of New York. His discussion of medical records commences on page 24. Dr. Franco is a Diplomate of the American Board of Internal Medicine, a member of the Founder's Group, American Board of Occupational Medicine, and Associate Clinical Professor of Industrial Medicine, New York University-Bellevue Medical Center.

Nursing World Reports

National: A legal definition of nursing practice for use in obtaining adequate state licensing laws for nursing practice has been approved by the ANA Board of Directors.[1] The ANA Board of Directors' approval of this definition, devised by the ANA Committee on Legislation and ANA legal counsel, climaxes several years of work in this area. The definition, as stated in the *ANA in Review*, should prove helpful in clarifying the differences between professional and practical nursing and between those acts which are independent nursing functions and those which require the supervision of a physician or dentist. Copies of the definition may be obtained by any member from the American Nurses' Association, 2 Park Avenue, New York 16, N. Y.

As compared with 1953, there has been a substantial increase in the number of local units formed by the state nurses' associations and by nurses themselves to provide opportunities for nurses to discuss employment problems. In December, 1953, there were 76 such units in 16 states; as of July 23, 1955, there were approximately 350 existing local units in 19 states. Although the existing local units are predominantly composed of general duty nurse groups, the use of this type of organization has also been reported for public health nurses in three states, and for school nurses, industrial nurses, office nurses, supervisory nurses, and private duty nurses, each in one state.

Core test plans for use in preparing the State Board Test Pool licensing examinations have been developed by a subcommittee of the ANA Special Committee of State Boards of Nursing working with the director of the NLN's Testing Service. The subcommittee is composed of representatives from all geographic areas of the country.

Educational Programs: Recognition of the Army Health Nurses' role in the prevention of disease and injury will assume added importance at the first Institute for Army Health Nurses. This Institute will be conducted under the direction of Captain Elizabeth A. Pagels, ANC, at Walter Reed Army Institute of Research, Walter Reed Army Medical Center, Washington, D. C., March 15-16, 1956. The purpose of the Institute is to study Army Health Nursing problems, consider methods of improving the program, prepare an outline for an Army Health Nursing Manual, and consider the contributions of the Army Health Nurse to the military community programs.

The second annual Postgraduate Workshop on Military Operating Room Nursing for Army Nurse Corps officers was held January 9-20, 1956, at the Walter Reed Army Institute of Research, Washington, D. C. This workshop was the first to be conducted under the auspices of a university, the Catholic University of America. Two hours of undergraduate or graduate credit will be given to those students desiring it.

The Long Island Industrial Nurses Association will hold its second annual educational program, "Nurses in Industry," at Adelphi College, Garden City, N. Y. The program will start on February 7, 1956, at 8:00 P.M., and will continue for the next three consecutive Tuesdays. The fee for registered

(Continued on page 6)

for the
UNIFORM WEARER
The perfect blend of style and fabrics in one of the season's newest silhouettes!
Sanforized Poplin.
#524 $9.95
Dacron & Cotton.
#324 $14.95
Sizes: 8-18;
Petites 8P-18P.
Above, with zipper skirt, ¾ & short sleeves.
Sanforized Poplin.
#401 $7.95
Sizes: 10-20;
Talls 10T-20T.
With gripper skirt in long & short sleeves.
Dacron Taffeta.
#1105 $14.95
Sizes: 8-18.
With gripper skirt in ¾ & short sleeves.
For other fine uniforms, many of which are advertised in this issue, WRITE FOR OUR FREE 1956 CATALOG!

BRUCK SHOPS

The Uniform Center of New York
59 East 59th St., New York 22, N. Y.
Dept. NW2

Rush the following on your 2-week money back guarantee!

style	size	sleeve	price

( ) Check or M.O. Enc.
( ) Send C.O.D., I'll pay postage.
( ) Send Free 1956 Catalog.

plus handling charge-25c
Total.....

name .....
address .....
city ..... zone ..... state.....

Nursing World Reports

(Continued from page 5)

nurses is $15.00. The check should be mailed to: Mrs. Monica Kissling, 375 Jackson Street, Apt. 6 B., Hempstead, N. Y.

Fellowships and Scholarships: The College of Nursing at Wayne University has announced that teaching fellowships will be available for graduate nurses who wish to study for the degree of Master of Science in Nursing. The following areas are included: Medical-Surgical Nursing—two fellowships for nurses who wish to prepare for teaching in this field; Nursing Service Administration—one fellowship for a nurse who wishes to prepare in the administration of hospital nursing services; Teaching in a Junior College Program—three fellowships offered to nurses who wish to prepare for teaching in a Junior College program of basic nursing. Each fellow will be expected to give 20 hours a week of assistance in the supervision of students in their clinical practice under the supervision of the department head. The other half of their time will be utilized in study in the Nursing Department of the Graduate School in a program leading to the degree of Master of Science in Nursing. It is expected that a minimum of 8 credit hours per semester will be carried. Each fellow will be paid $2,018 for the ten-month academic period from September through June. The usual academic vacations are allowed. Tuition and non-resident fees are waived during the academic year thoughout the period of the fellowship. Nurses must be eligible for admission to the Nursing Department of the Graduate School of Wayne University, and should have had several years of satisfactory experience in nursing education or nursing service. Special consideration will be given to those who apply before May 15, 1956.

The College of Nursing at Wayne University is also offering to graduate nurses scholarships in Psychiatric nursing for advanced study towards the Bachelor's and Master's degrees. The student enrolled in the Bachelor's program will receive a grant in the amount of $2,000; the student enrolled in the Master's program will receive $2,400. The programs cover a period of two academic semesters and one summer session. Eligibility for admission to either of these programs must be established. Preparation in psychiatric nursing sufficient for the level of study which the student wishes to pursue is required. For the Master's program special consideration will be given to graduates of fully accredited basic degree programs. Special consideration will also be given to those who apply before June 1, 1956. For further information and application forms, write to: Dean, College of Nursing, Wayne University, Detroit 1, Michigan.

The Commonwealth Fund of New York, for the third year, has awarded a scholarship grant of $12,000 to the University of Maryland School of Nursing for graduate nursing education. The scholarships will be awarded to graduate nurses holding baccalaureate degrees who desire to undertake Master's degrees in psychiatric nursing. Candidates wishing to apply for scholarships in nursing at the University of Maryland must hold a Bachelor's degree from an accredited college or university and must have had basic preparation in psychiatric nursing and field work in an approved health agency. The applicant for a nursing scholarship is also required to meet admission standards of the university's Graduate School.

Loans up to $500 for registered professional nurses who wish to prepare themselves to become instructors in schools of nursing are now available through the New York State League for Nursing Lydia E. Anderson Educational Loan Fund. Qualified persons may obtain application blanks from Mary E. Mullen, NYSLN Treasurer, 249 East 37th St., Brooklyn 3, N. Y. There is no interest charged for these loans; however, a promissory note must be signed at the time the loan is made and loans must be repaid in full within five years. The applicant is required to submit two references, one of these from a nurse educator, who can judge adequately the applicant's fitness for teaching in nursing.

Future Nurses Clubs: A "Program Guide for Future Nurses Clubs," underwritten by E. R. Squibb & Sons Division of Olin Mathieson Chemical Corporation, has been published. The eighty-page book is designed to help clubs become "a setting in which young people who are interested in nursing as a career can meet together to share that interest, to explore the opportunities and requirements in the field, to grow as individuals by working together and to learn about the community life in which they will soon participate as informed citizens and possibly as nurses." With the publication of this new program guide, the Committee on Careers, National League for Nursing, announces national sponsorship of Future Nurses Clubs which are growing rapidly in high schools throughout the country.

Camp Nursing: Opportunities are now available to registered nurses interested in directing a health program, living and working with small groups of healthy children and adults in an informal outdoor atmosphere. To qualify as a Health Supervisor of Girl Scout camps the applicant must be at least 21 years of age and a registered nurse with training in first aid (registered in the state where the camp is located, if such registration is required). Also required is at least one year's experience as a graduate nurse and, if possible, experience as a school or public health nurse, or a nurse in a children's hospital. Salaries are determined by the individual's experience, qualifications and training. Registered nurses interested in spending the summer at camp should call the office of their local Girl Scout council.

Conventions: The fifteenth annual convention of the National Association for Practical Nurse Education will be held at the Edgewater Beach Hotel, Chicago, Ill., May 7-11, 1956, inclusive.

The American Association of Industrial Nurses, Inc., will hold its annual conference in Philadelphia, Pa., April 23-27, 1956.

In February, the month our country traditionally designates as "Heart Month," it is appropriate to consider

In blood pressure determination, accurate, standardized technique is essential.

Some Roles of Nursing in Cardiac Disease

by Myrtle H. Coe, R.N.
Assistant Professor, University of Minnesota School of Nursing, and Supervisor of Clinical Instruction for Graduate Nurse Students

SINCE heart disease is the most common major illness in the United States, it should be of major concern to nurses. Heart disease has been familiar to nurses since the early days of their professional education yet nurses are increasingly hesitant to care for cardiac patients. In examining the reasons for their sense of inadequacy two facts become apparent. The first is that most students receive their clinical experience in medical nursing very early while their attention is focused primarily upon developing skill in nursing techniques rather than upon comprehending total patient needs. Secondly, the field of cardiovascular disease is dynamic, with research and new forms of therapy changing some aspects of care rapidly.

In order to give competent care to a cardiac patient the nurse will first need to know how the heart contributes to the welfare of the total body and what characteristics it must have in order to function effectively. This knowledge will help her understand the purpose and values of each of the several methods used in evaluating the health status of the heart. She will also want to understand the nature of any insult to the heart produced by each of the diseases in the cardiovascular field, and how good nursing can minimize any unnecessary additional burden. She can then help each patient understand what is happening to him and how he can become an important participant in his program of care. The nurse will need to appreciate the significance to the whole family of the heart disease, and to know how to help the family and the patient plan for any adjustments required by his altered health status. It is important that she be able to refer to special agencies and personnel in the community prepared to provide assistance in his rehabilitation. The nurse in school and industry must know how to help the patient live wisely and happily within whatever limits have been imposed by his cardiac impairment. Recently an important new opportunity has come to health workers to participate in the prevention of certain types of heart disease, and informed nurses can fill a vital role in this program.

The aspects of good nursing listed above are equally characteristic for nurses who care for patients in homes, hospitals, at work, or at school. This paper's scope requires limited selection of material from so vast a field. Some facts important for nurses to understand about methods of examining the heart will be presented, followed by nursing implications of some newer methods of treating and preventing heart disease.

Diagnostic Methods

Knowledge about diagnostic methods is essential in order (1) to provide patient preparation adequate to ensure a successful examination, (2) to give meaningful explanation to the patient and his family in order to justify any privation, inconvenience, or discomfort incurred by the test and to gain full cooperation of the patient, and (3) to incorporate the findings into the body of information which is basic to the patient's care.

The first method to be discussed, auscultation of the heart, is especially important to nurses working with families or teachers of any children who have had cardiac examinations. The nurse's function is one of interpretation. In addition to usual normal heart sounds the examining physician sometimes hears a so-called murmur. These sounds

occur whenever there is a deviation from the normally even flow of blood through the heart and vessels. Both stenosis and insufficiency of heart valves produce murmurs. They are also heard in patients with congenital heart disease.

In addition to the murmurs caused by organically diseased hearts, there are some caused by other conditions. These are called "innocent" murmurs (formerly referred to as "functional" murmurs). In adults they sometimes occur in patients with anemia or hyperthyroidism. They are relatively common in children because of the great elasticity of young heart tissue. The latter have absolutely no pathological significance and disappear as the child grows older. Even though a child's murmur is organic it may not be permanent. A study of 1000 children over a twenty-year period following rheumatic fever showed that a significant number of early organic murmurs later disappeared.[1] It was also found that sometimes a murmur did not develop until many years after the attack of rheumatic fever.

It is important that nurses explain to parents and teachers why children with murmurs should not have their physical activities curtailed unless curtailment is specifically ordered by a physician. Even when some limitation has been ordered it is essential to avoid exaggerating its degree. The nurse also needs to explain why the child should return periodically for physical check-up. It is as important to diminish and discontinue curtailment of activity when the heart improvement warrants as to continue it as long as need indicates.

An examination procedure which has been added to nurses' responsibilities during fairly recent years is blood pressure determination. Many nurses as students were not instructed in the technique. All nurses will find a pamphlet entitled "Recommendations For Human Blood Pressure Determinations by Sphygmomanometers" very valuable. The pamphlet was prepared by the American Heart Association originally for doctors and is available to nurses, usually without cost, from state Heart Associations. Frequent checking of equipment; relaxed and rested condition of the patient; precautions in application of the cuff; proper speed of cuff inflation and deflation; the point at which diastolic pressure should be read; special precautions in taking pressure readings in a new patient; and common errors in general technique are all discussed briefly and simply in this small publication. Blood pressure determination offers significant evaluation of the cardiovascular system and nurses should be competent and painstaking in its performance.

Quiet recreation helps the child with heart disease to remain content in bed. Occupational therapists and members of the nursing staff provide this service.

The value and nature of cardiac catheterization is often asked of a nurse either in a public health agency or in a hospital. In this procedure a fine plastic tube is directed into an arm vein and along the venous circuit into the vena cava, right heart, and pulmonary artery. This provides a means for measuring blood pressure in and taking blood samples from the vena cava, the right atrium, the right ventricle, and the pulmonary artery. Since there are no nerves of sensation in the blood vessels it is not a painful procedure. A local anesthetic prevents pain at the arm site where a small incision exposes the vein. Determination of the oxygen and carbon dioxide content of the several blood samples enables a doctor to identify and localize any congenital defect between the right and left cardiac chambers or between the aorta and pulmonary artery. Levels of these two blood gases should remain the same between the vena cava and the lungs. If a sudden change appears in any one of the blood samples it must indicate that a communicating defect in the cardiac septum allows blood from the left heart to mix with that in the right heart at the site from which the blood sample was taken. This information, plus the knowledge of the intra-cardiac blood pressures, enables a doctor to decide whether surgery can correct the defect.

The electrocardiogram is a record produced by muscular contraction of heart muscle. It is used to detect the presence of injury to the heart muscle or to the specialized conducting tissue located among the cardiac muscle fibers. Injury may be caused by acute disease such as diphtheria, pneumonia, or rheumatic fever. It may also result from chronic conditions such as arteriosclerotic heart disease (narrowing of the coronary arteries), chronic valvular disease, or hypertension. The first robs the muscle of sufficient food and oxygen; the latter two require the muscle to work beyond its capacity. The electrocardiogram is modified by most abnormalities in the myocardium and indicates to the doctor the nature and site of disease. Unfortunately this method is not sensitive to all latent trouble, as is demonstrated by the fact that sudden cardiac death may immediately follow a negative heart examination.

There is not space to discuss other well established cardiovascular examinations such as circulation time, vital capacity, apical and radial pulse, X-ray, *et cetera,* nor to describe new methods, many of which are still limited to the area of research.

Therapeutic Methods

Although many aspects of the medical care of patients with heart disease have not changed, a few words should be said about the so-called "arm chair" method of care. If a heart has lost or is in imminent danger of losing its ability to provide adequate circulation (heart

[1] E. F. Bland and T. D. Jones, "Rheumatic Fever and Rheumatic Heart Disease," *Circulation,* (A Twenty Year Report on 1000 Patients Followed Since Childhood), 4:836, 1951.

failure) it must be relieved of any work not necessary to the maintenance of life. One way of doing this is to decrease the amount of blood reaching the heart through the venous circulation. This is achieved by placing the patient in Fowler's position so that the pull of gravity inhibits the venous flow from the legs and lower trunk. Such a posture may be assumed either in bed or in a comfortable arm chair. In either case the patient is treated as completely helpless. He is carefully moved from bed to arm chair and back again. He may even need to be fed while in the chair. Because acute heart failure is a possible complication of myocardial infarction, arm chair treatment may be ordered for patients with this condition.

Since it has been proved scientifically that less energy is required to use a bedside commode than a bedpan, doctors frequently request that cardiac patients be lifted or assisted to the commode, especially for bowel movement.

Conditions which place a dangerously heavy burden upon the heart of a cardiac patient include excessive physical exertion, severe winter weather, walking against a high wind, straining at stool, emotional stress, large, rich meals, fatigue, and continued anxiety. For a seriously ill cardiac patient even self-feeding, prolonged talking, face-washing, or combing the hair may become a life hazard. Even after subjective symptoms have shown marked improvement it may be necessary to protect the patient from any exertion. This is especially true of the patient with myocardial infarction.

Above, left: Even when the bed has been adjusted to its minimum height from the floor, patients with cardiac diseases need assistance from the nurse in moving to a chair or bedside commode. Right: When a child must undergo cardiac catheterization, nurses can do much to inspire confidence in its parents before the procedure; the child is likely to be less upset when the parents are calm.

Prevention of Heart Disease

The large majority of patients who die from chronic valvular heart disease could have been spared if the original and repeated attacks of rheumatic fever could have been avoided. Today enough is known about methods of preventing rheumatic fever to warrant a very earnest attempt to eliminate the disease from society. If every case of streptococcal sore throat could be adequately treated with penicillin, very, very few people would develop rheumatic fever.[2] Every nurse should feel a professional obligation to spread the word to all who live or work with children. The American Heart Association has published a list of symptoms which characterize streptococcal infection. These symptoms should be familiar to all nurses in order that they may correctly instruct parents, teachers, and the general public.

Each succeeding attack of rheumatic fever places the patient in greater jeopardy of valvular disease. It is, therefore, important to protect such a patient from further attacks of streptococcal infections and resulting rheumatic fever. Continuous use of sulfadiazine or some form of Penicillin by the doctor's order should, according to recommendations of the American Heart Association, be continued "throughout life, or until new knowledge makes this recommendation invalid."

Subacute bacterial endocarditis involves either valves already injured by rheumatic fever or defects of congenital origin. Bacteria which reach the blood stream of most healthy individuals are quickly destroyed by certain cells which comprise the reticulo-endothelial system of the body. In a patient with a valvular disease or congenital cardiac defect these bacteria are apt to produce infection in damaged areas. Precaution should be taken to prevent bacteria from gaining access to the blood. Prophylactic measures should be given before and after a person with a history of either of these predisposing conditions undergoes any of the following: dental extractions and other dental manipulations which disturb the gums, the removal of tonsils and adenoids, the delivery of pregnant women, and operations on the gastrointestinal or urinary tracts. Penicillin is recommended for several days before and after oral manipulations or surgery, and other appropriate antibiotics are recommended for patients having surgery of the urinary or lower gastrointestinal tract.[3]

When enough is learned about the cause of coronary heart disease to launch a preventive program, another great step will have been taken to topple heart disease from its present position as our number one killer.

Nothing has been said about new medications in the treatment of hypertension and heart disease, of emotional reactions to heart disease and how the nurses can help patients and families make successful emotional adjustments, nor of the nurse's role in rehabilitation. All of these are areas of considerable importance to nurses and other sources should be sought for information on these subjects.

Bibliography

Beveridge, R. J., "Cardiac Catheterization," *A.J.N.*, 49:214, 1949.

Briller, S. A., "Important Uses of Electrocardiography," *A.J.N.*, 55:1378, 1955.

Callaghan, J., "Making the Cardiac Patient's Work Easier," *A.J.N.*, 55:950, 1955.

Coe, M. H., "Nurse and Rehabilitation: The Cardiac Patient," *A.J.N.*, 54:1355, 1954.

Major, R., *Physical Diagnosis*, 4th ed. Philadelphia, W. B. Saunders Company, 1953.

Mitchell, A. M., Lown, B., and Levine, S. A., "The Armchair Treatment of Acute Myocardial Infarction," *A.J.N.*, 53:674, 1953.

Nurse, A. G., "But Why Can't I Get Up," *A.J.N.*, 53:172, 1953.

Overholser, M. T., "The Congenital Cardiac Program and the Nurse," *A.J.N.*, 53:1478, 1953.

Sachs, B., "Arteriosclerotic Heart Disease," *A.J.N.*, 55:838, 1955.

Silber, E. N., "Medical Management of Angina Pectoris," *A.J.N.*, 55:168, 1955.

————, "Protecting Patients with Rheumatic Fever," *A.J.N.*, 53:80, 1953.

————, *The Heart of the Home*, American Heart Association, 1950.

[2] E. N. Silber, "Prevention of Rheumatic Fever and Bacterial Endocarditis Through Control of Streptococcal Infections," *Circulation*, 11:317, 1955.

[3] Silber, *loc. cit.*

Nursing Care of the Cardiovascular Surgery Patient

by Marjorie R. Taufic, R.N.

Clinical Instructor of Basic and Advanced Surgical Nursing, University of Minnesota School of Nursing

An infant has continuous oxygen therapy after cardiac surgery. Croupette (Air-Shields, Inc.) humidifies the air by bubbling oxygen through water.

THE rapidly changing picture in the surgery of cardiovascular anomalies brings an opportunity for new learning and improved skills in bedside nursing. It is an exciting time for the surgical nurse, for she is assuming a most important role as one of a team whose objective is saving lives which once were considered lost. She has opportunity to participate in total patient care which widens her horizons immeasurably.

If cardiac surgery nursing offers this challenge, it also poses new problems for the surgical nurse. She must, first of all, understand the nature of the existing pathology and the surgical means of correction. She should have an appreciation of medical needs, dietary requirements, and emotional problems that are inherent in cardiac disease. She must be a mechanic at the bedside, able to maintain the elaborate equipment used in postoperative care. She requires a working knowledge of the pharmacologic preparations in current use. Finally, she should recognize the value of mental as well as physical rehabilitation during convalescence.

These are not all new learnings and skills. They are, rather, refinements of basic nursing practices which now have greater import because of the surgery that is possible today. Therefore, to work confidently with these patients the nurse need only draw from previous experience, broaden her concept of total patient care, and keeep abreast of the developments in cardiovascular surgery.

Pathology of Cardiac Anomalies

In general, the correction of cardiac anomalies may be divided into two classifications:

1. Extra-cardiac surgery
   a. Ligation and division of patent ductus arteriosus.
   b. Excision and repair of coarctation of the aorta.
   c. Procedures of Blalock and Potts based on pulmonary-systemic anastamosis for the palliative treatment of tetralogy of Fallot.
2. Intra-cardiac surgery
   a. Correction of basic pathology of tetralogy of Fallot.
   b. Closure of isolated interatrial and interventricular septal defects.
   c. Correction of mitral, aortic and pulmonary stenosis.

In *patent ductus arteriosus* there remains a communication between the aorta and pulmonary artery, a residual from fetal circulation which normally closes within the first year of a child's life. Failure of the ductus to close

Because of the rapid strides made in cardiac surgery in the past ten years, it is essential that the surgical nurse keep abreast of the developments in cardiovascular surgery if she is to meet the challenge which cardiac surgery nursing offers. This article takes into consideration the corrrection of cardiac anomalies that have been divided into two classifications: Extra-cardiac surgery and Intra-cardiac surgery. It reviews the changing pattern of nursing care of the cardiac surgery patient; the refinements that have been made in cardiac surgery and in the basic nursing practices; the opportunities for broadening the surgical nurse's concept of total patient care; and the new problems posed for the surgical nurse in rehabilitating the cardiac patient.

allows for a constant escape of blood from the systemic circuit into the pulmonary circuit. The condition is more frequently seen in females, and while it is well tolerated at first there is subsequent retardation of growth and some degree of cardiac embarrassment. There is a characteristic "machinery murmur" heard best below the clavicle to the left of the sternum. Ultimately there is cardiac enlargement, and the life span of the patient with patent ductus arteriosus is only about thirty-five years.

In *coarctation of the aorta* there is a narrowing or constriction of a segment of the aorta in the region of the obliterated ductus arteriosus. Symptoms may be minimal in childhood; later there is fatigue, decreased exercise tolerance, elevated blood pressure in the upper extremities and markedly decreased pressure in the lower extremities with an almost imperceptible dorsalis pedis pulse. Without surgical intervention these patients usually die before or during the fourth decade of life.

Tetralogy of Fallot presents a complex of anomalies—a defect in the upper ventricular septum, dextroposition of the aorta (aorta arises from the junction of the right and left ventricles), pulmonary stenosis, and hypertrophy of the right ventricle. The extent of the pathology of each component of the tetralogy varies; therefore, there is variation also in the clinical picture. Cyanosis is present from birth; there is limitation of activity, with dyspnea and fainting during exercise. Clubbing of the fingers and toes is usually seen. The red blood count is elevated to compensate for the reduced oxygen saturation of the erythrocytes. Lowered blood pressures and viscosity of the blood are also seen. The average life span of this patient is about twelve years when the condition goes untreated, death resulting from congestive heart failure, subactute bacterial endocarditis and cerebral accidents.

Interatrial septal defects result from a faulty embryological development which leaves a communication between the right and left atria. Since pressures in the left heart are higher than those of the right heart, there is increased blood flow from left to right, producing enlargement of the right atrium and ventricle. Patients with interatrial septal defects may remain asymptomatic for a number of years, but large defects in this region of the heart result in physical retardation. Also, a typical systolic murmur is heard over the precordium, and congestive heart failure may occur if the condition remains untreated.

Stenosis of the mitral valve is a direct consequence of rheumatic heart disease. The anterior and posterior cusps of the valve become fibrotic, even calcific, and fuse until there is but a small buttonhole opening. Fatigue and dyspnea are but a part of the clinical picture; often there is accompanying edema of the lower extremities, and in severe cases the patient is an invalid on complete bed rest, with very little future to anticipate.

Pure pulmonic stenosis is an isolated congenital lesion not associated with other anomalies. Stenosis may be found in the pulmonary artery itself, the pulmonary valve, valve ring or infundibulum. In any case, there is gross dilatation of the pulmonary artery, with right ventricular hypertrophy, and markedly reduced shunt of blood through the lungs which produces severe cyanosis.

Historical Review

Cardiac surgery has made rapid strides in the last decade, but experimental work in this field was reported by investigators as early as 1882 when Block successfully sutured cardiac wounds in rabbits. In 1896 Rehn reported the first successful repair of a laceration of the right ventricle in a human. It was not until the early part of the twentieth century, however, that impetus was given to this work, for until then there was no means of anesthetia which permitted safe intrathoracic surgery.

For Mueller suction of oropharynx, the nurse works through an aperture in the tent, to prevent mucus accumulation in the patient's upper respiratory tract.

In 1913 Tuffier reported in France the surgical treatment of a patient with aortic stenosis with survival, and ten years later Cutler, Levine and Beck did the first mitral commissurotomy. The patient survived four and one-half years and then died of other causes than mitral insufficiency. While the successful operation of two patients did not immediately popularize these procedures, it was at least an indication that cardiac surgery was within the reach of surgeons.

Twenty-five years later, in 1938, Dr. Robert Gross solved the problem of patent ductus arteriosus by ligation of the ductus. In the years which followed, the technique was refined to include division as well as ligation, and today the repair of this congenital anomaly is accomplished with minimal hazard to the patient.

In 1945 both Dr. Gross in Boston and Dr. Crafoord in Stockholm, working independently, performed successful operations for correction of coarctation of the aorta. Both operators employed the principle of excision of the coarctation and reconstruction of the aorta by primary anastamosis.

The first successful surgery of tetralogy of Fallot was reported by Dr. Alfred Blalock and Dr. Helen Taussig of Baltimore in 1944. Their method of approach was to create a fifth defect and reroute the blood into the pulmonary circulation by anastamosing the right subclavian artery to the right pulmonary artery. In 1946, Dr. Willis Potts in Chicago modified their technique somewhat by anastamosing the left pulmonary artery to the aorta. In both procedures there is relief of cyanosis and improved exercise tolerance, but neither operation attempts to correct the basic pathology.

Investigators all over the world were concerned with the surgical correction of atrial and ventricular septal defects, but their progress was impeded by the lack of a suitable means for working within the heart in a dry field. Finally, in 1952 Dr. John Lewis in Minneapolis, employing hypothermia which permits occlusion of cardiac circulation for several minutes without risk of brain damage, closed the first atrial septal defect by direct approach.

The most dramatic of all heart surgery was yet to come, however. Closure of ventricular septal defects requires more time than hypothermia allows because of the muscular nature of the septum itself, and because of the frequency of associated anomalies, as in tetralogy of Fallot. In 1954 Dr. C. Walton Lillihei, also in Minneapolis, developed a technique for rerouting the patient's blood through the circulatory system of a donor which provided adequate oxygenation for an interval of time adequate to repair ventricular septal defects and correct pulmonic stenosis in tetralogy patients.

Preoperative Preparation

Upon admission to the hospital, patients with cardiac anomalies must undergo careful evaluation before surgery is attempted. Complete physical examination, electrocardiographic studies, blood determinations and heart catheterization are necessary to determine the nature of the lesion.

During this waiting period the nurse can contribute much to her patient's well-being through study of the nature of the patient's disease, his habits, interests, and limitation of activity. With these factors in mind she can then devise a plan for nursing care which is restful yet not boring, one which is aimed at orientation to the hospital and its personnel so that the child at the time of surgery is at the optimum physical condition, trustful of the nurses and doctors, and actually looking forward to his operation. A wheelchair tour of the unit, brief visits with other patients who are convalescing from similar surgery, and even a ride on a litter prior to surgery would be helpful. The child might be shown an oxygen tent and told in simple terms how it is going to help *him;* he might be given an opportunity to examine a syringe and to watch a well-behaved patient receiving an intermuscular injection. Certainly he should be permitted to have at his bedside a few familiar and loved toys or books for diversion.

Most important at this time is the nurse's role in attaining or maintaining adequate nutrition and hydration. The child can be encouraged to eat by presenting small quantities of food that he likes and is used to. He might cooperate in forcing fluids if colored straws and vari-colored fruit juices are offered as in-between feedings. A simple chart at the bedside with gold star rewards for each meal that is eaten could also have appeal for the very young child. However it is accomplished, the child should come to look forward to mealtime as "fun" time, and the nurse's ingenuity in achieving this "fun" might lay the groundwork for future good eating habits which the child has never known before.

Using chest tube stripper (V. Mueller Co.) to prevent clot formation in tubes. Stripping of the chest tubes is done in the direction of the drainage bottles.

Preparation of Unit

It is highly desirable to have a small unit set aside for the recovery period of cardiac surgery patients. Several types of beds should be included to accommodate any size child. Oxygen, oxygen tents and Croupettes should be readily accessible, as should also such equipment as emergency trays (cardiac arrest and tracheotomy), sterile dressings, emergency medications, chest suction equipment, gastric suction equipment, and catheters for Mueller suction and tracheotomy care. The nurse caring for a patient, then, need never leave the bedside.

Postoperative Care

Vital Signs. Blood pressure, pulse, respiratory rate and temperature play an important part in the postoperative period of a cardiac surgery patient, and their careful evaluation may prevent or abort much-dreaded complications.

Blood pressures should be taken every fifteen minutes until stable, every hour while special nurse coverage is needed, and at frequent intervals thereafter as an index of general condition and of blood loss. The pulse should always be taken at the apex. A rapid, irregular pulse might indicate ventricular fibrillation, whereas a slow pulse could well mean heart block. These two complications are most often encountered in the repair of atrial and ventricular septal defects, and demand immediate action on the part of the atending surgeon. For ease of ventilation, patients are placed in oxygen tents or, in the case of an infant, Croupettes, or nasal oxygen is administered. The respiratory rate must be observed closely, however, as must also the patient's color around the nose, mouth and ear lobes. Temperatures are taken every hour until the reading reaches 98-100° rectally. Wide exposure during surgery may cause an appreciable drop in temperature and precipitate cardiac irregularities. Until the temperature reaches 98°, a hot water bottle at 115°, well covered to prevent burns, can be used. If the temperature exceeds 100°, tepid alcohol sponges should be instituted.

Regulation of Chest Suction Apparatus. However chest suction is accomplished, whether it be with a simple trap bottle, water trap drainage or manometer suction, the patient's life depends on the nurse's understanding of the physical principles of chest drainage and her ability to maintain the equipment in good working order. Negative pressure must be exerted constantly to free the pleural cavity of air, fluid and blood, so that the lung has every opportunity to expand. Chest catheters are placed at the time of surgery in strategic areas of the pleural cavity, each of which is attached to a separate suction apparatus. To prevent clots from forming in these catheters and the rubber tubing leading from them, the tubes are milked or stripped every ten to fifteen minutes for twelve hours and at less frequent intervals thereafter as indicated. This can be done by hand or with an especially designed chest tube stripper which is available. The blood loss is recorded every hour so long as there is active bleeding; before emptying and measuring the contents of each bottle the chest tubes are clamped with hemostats. For convenience, these hemostats are fixed to the draw-sheet when not in use.

Maintenance of Adequate Airway. Frequently there is a history of preoperative respiratory difficulty which predisposes to thick, profuse secretions in the postoperative period. Mueller suction should be done periodically, preferably deep enough to reach the bifurcation of the bronchi. When a good cough reflex is established this may be discontinued. If adequate suction cannot be accomplished through the oral route, a tracheotomy must be done. Once the patient is able to cooperate in coughing, he should be encouraged to do so every hour. It is helpful for the nurse to splint the incision with her hands at this time. Frequent change of position is also of value in preventing mucus from accumulating in the respiratory tree.

The nurse splints the chest wall at the site of incision with both hands while encouraging the patient to cough.

Acute Gastric Dilatation. As a result of trauma to the vagus nerve during certain types of cardiac surgery there is a temporary inability of the stomach to empty properly and gastric dilatation may result. This is manifested by abdominal distention and tympany, nausea and, in extreme cases, a shock state. Because of this mechanism the nurse should be prepared to employ gastric suction at any time, and she should be in no hurry to force oral fluids immediately after surgery. She can prevent severe distress by recognizing the early symptoms of this complication.

Fluid Replacement. Whole blood is replaced volume for volume and is calculated on the basis of blood loss during surgery and postoperatively. Intravenous fluids are administered with caution to prevent overloading of the heart.

General Comfort. Position in bed is that which promotes easy breathing—semi-Fowler's or flat. Pillows are used for support and to assure straight drainage of chest catheters. Only enough sedation is given to keep the patient comfortable and alert enough to cough. An accurate intake and output record is kept at the bedside.

Normal Recovery Pattern. Ambulation is progressive but slow; in adults elastic bandages are applied from toe to groin while the patient is at bedrest. Chest catheters are removed when drainage becomes minimal and the lungs completely expanded. Diet is given as tolerated and salt intake may be restricted. Those patients with transient personality changes resulting from their reluctance to leave the shelter of a "cardiac life" require special understanding and support.

Bibliography

Bailey, Charles P.: *Surgery of the Heart*, Lea and Febiger, Philadelphia, 1955.

Blalock, Alfred and Taussig, Helen: "The Surgical Treatment of Malformations of the Heart in Which There Is Pulmonary Stenosis or Pulmonary Atresia," *J. Am. Med. Ass'n.*, Vol. 128 (May 19, 1945) pp. 189-202.

Gross, Robert and Hubbard, J. P.: "Surgical Ligation of Patent Ductus Arteriosus: First Successful Case," *J. Am. Med. Ass'n.*, Vol. 112 (Feb. 25, 1939) pp. 729-731.

Gross, Robert E.: "Surgical Correction for Coarctation of the Aorta," *Surgery*, December, 1945, pp. 673-678.

Gross, Robert: *The Surgery of Infancy and Childhood*. W. B. Saunders Co., Philadelphia, 1953.

Lewis, F. J. *et al*: "Repair of Septal Defects in Man Under Direct Vision With the Aid of Hypothermia," *Surgery*, 36:538-556, 1954.

Lillehei, C. W. *et al*: "The Direct-Vision Intracardiac Correction of Congenital Anomalies by Controlled Cross Circulation," *Surgery*, July, 1955, pp. 11-29.

Potts, Willis J. *et al*: "Anastamosis of the Aorta to the Pulmonary Artery," *J. Am. Med. Ass'n.*, Vol. 132 (1946) pp. 627-631.

Taussig, Helen B.: *Congenital Malformations of the Heart*, The Commonwealth Fund, New York, 1947.

The Washington State Heart Association cooperates with specialists from many fields to plan and provide professional education through

Nurses' Workshops in Cardiovascular Diseases

by Betty Mathews, R.N.
Formerly State Program Director, Washington State Heart Association

DURING the past three years the Washington State Heart Association has been concerned with providing a professional education program for nurses in the field of cardiovascular diseases which would be of practical value to them in meeting their everyday work problems. This concern began as a result of reactions written by nurses who attended a Heart sponsored program of doctors' lectures provided through the District Nurses' Associations. While considerable interest in the program was expressed, the nurses succinctly indicated that their needs and desires to improve nursing care could not be satisfied with lectures on heart disease.

A study of these expressed needs by representatives of the University of Washington and State College of Washington Schools of Nursing, the Nursing Division of the State Health Department, members of the State League for Nursing, and the Heart Association led to agreement by these agencies to tackle the problem together. A planning committee was formed which included specialists from the fields of hospital and public health nursing, medicine, medical social work, vocational counseling, home economics, nutrition, public health education, physical and occupational therapy. This committee defined its immediate function as the planning and presentation of a series of workshops designed especially for nurses in small communities. The purpose of the workshops was to bring about better understanding of nursing care for patients with cardiovascular diseases, with special emphasis on the application of these understandings.

A design for planning the workshops evolved from a series of committee discussions in which were shared the training and experience of many disciplines. Out of these discussions came the philosophy and methodology for the workshops: that education is more than a process of telling others what to think and how to act; rather, education is growth which occurs when groups study their own problems, consult specialists as necessary, make their own decisions and learn from both successes and failures. It was agreed the measurements of success of the workshops would be valuable guides for future planning if the ultimate evaluation was concerned not with the workshop itself, but rather, with what happened to the people participating in it. With this philosophy as a background, a guide for planning each workshop was set forth which included: a clear understanding of the local problems and needs as expressed by the nurses, doctors, and patients representing the groups for whom the workshop was intended; the formulation of educational objectives based upon these expressed problems and needs; the selection of learning experiences which would best meet the objectives; and, finally, a program plan sufficiently elastic to permit revision or additions as new problems were expressed by the workshop participants.

The first series of workshops was presented for nurses from hospitals in small communities. Requests from Directors of Nursing led to a second workshop geared to the needs of nurses practicing in larger metropolitan hospitals. Recently the State Association of Licensed Nursing Home Operators asked for a series of regional workshops especially designed for nursing personnel in the 290 nursing homes of the State. As a result of these requests, the committee's original design for planning workshops has served as the framework for programs designed to meet the problems and needs of three distinct groups of nurses. In brief, these programs are for nurses from small communities,

Above, left, photograph by Jim Schick, Walla Walla: In a practice session at the Workshop for Nursing Home Operators, the proper adjustment and use of a walker are demonstrated. Above, right, photograph by the *Seattle Times*: Helen Anderson shows a workshop participant that applying the principles of good body mechanics to nursing care results in greater comfort for the patient. These are some of the ways in which Washington's workshops give professional education.

Opposite page, left: The nursing team discusses the importance of reassuring the patient prior to administering oxygen. Workshop programs are provided for nurses from hospitals in small communities and in cities and for nursing home personnel. Right: Practice sessions with new equipment give team members more skill in handling it and greater confidence in their ability to use it. (Photographs by Fred Carter, Seattle.) These sessions help nurses solve their everyday work problems.

metropolitan cities and nursing home personnel.

Workshop For Nurses From Small Communities

In the early stages of planning, it was agreed that, to be most effective, each workshop should be limited to 35 participants who would return to their communities as teaching teams. Each team included a supervisor, a staff nurse, a practical nurse, and a public health nurse. The committee reviewed the problems which had been expressed by nurses who attended the previous lectures on heart disease, interviewed a number of cardiac patients who had been recently hospitalized, and held a conference with physicians from a number of small communities. From this information a tentative program was outlined.

At the opening session of each workshop, the participants discussed their problems and what they hoped to gain from the sessions. The tentative program was then revised to meet the expressed needs of the participants. The focus of the three-day session was the patient—his illness, convalescence, rehabilitation, and his return to work. Teaching demonstrations were followed by practice and return demonstration by the teams. Practice sessions included oxygen therapy, the team approach to planning patient care and problem solving, selection and use of teaching methods and materials which would be helpful in presenting the workshop content in their respective communities, proper and comfortable positioning of the patient in bed, and body mechanics for the nurse to enable her to increase her effectiveness and save her own energy. Each team secured first-hand information from a cardiac patient which included an expression of his feelings and attitudes toward hospitalization and discharge. Role-playing was effective as a means of gaining deeper insight into some of the emotional, social, and economic problems which affect patients.

Evaluation was a continuous process. Each day, the nurses wrote evaluation reports and through group discussion expressed their feelings about the program—whether it was fulfilling their hopes. This information helped the planners to assess the program and readjust it on a daily basis. Follow-up evaluation indicated that the workshops had served as the impetus for beginning inservice training programs in a large majority of the hospitals.

Workshop For Nurses From Metropolitan Cities

Requests for a workshop by nursing administrators in one large city led to a meeting with nursing service directors from each hospital. It was agreed that a series of afternoon sessions would be given for supervisors, head nurses, and nurse educators and that public health nurses would also be invited.

To build a practical workshop program, it was necessary first to identify and understand the problems and needs felt by nurses for whom the workshop was to be given. Discussion with a representative group of nurses provided the planning committee with a list of specific areas of nursing care, teaching and administrative problems with which the group wanted help. A conference with internists and surgeons helped the committee gain insight into patient-care needs from the viewpoint of the physicians, and a similar discussion with the directors of nursing service and education served to further define the elements which should be integrated into the workshop.

Forty nurses from the hospitals and health departments in the community attended the seven sessions which were held over a three-week period. The program began with a discussion of the expectations of the participants and program revisions were made so that the problems expressed would be adequately covered.

With the cardiac patient as the point of focus, the program included sessions on heart disease, surgery, treatment, rehabilitation, and the community resources available to serve the patient. Demonstrations and practice sessions were included as in previous workshops. Methods for analyzing the efficiency of everyday ward routines were studied. Work simplification techniques were applied to nursing; flow process charting was demonstrated and practiced by the participants to help them gain proficiency in analyzing ward routines to assure the most efficient use of the nurses' time and energy. One session was devoted to the all-important subject of

(Continued on page 28)

Two doctors and a nurse collaborate to point out the special problems involved in

Rheumatic Fever in the Adolescent Child

by Ruth Whittemore, M.D., *Director, New Haven Rheumatic Fever and Cardiac Program*
Maria Stack, M.D., *Fellow in Medicine and Pediatric Cardiology at New Haven Rheumatic Fever Clinic and Cardiac Program*
and Norma J. Nielson, R.N., *Public Health Nurse, Bureau of Maternal and Child Hygiene, assigned to New Haven Rheumatic Fever Clinic and Cardiac Program*

RHEUMATIC fever is an illness which finds most of its victims among those between the ages of 5 and 15, the school children from the elementary grades through high school years. Many of the children who are ill with joint, central nervous system, or cardiac involvement in their early years will usually show evidence of valvular damage by the time they reach adolescence. They must cope with their teen years and relate themselves to other teenagers with the knowledge or fear that there is something imperfect about their physical status.

The ravages of rheumatic fever are unpredictable. A variety of outcomes can occur. Some children are attacked once, and recover fully. Others have recurrences of acute rheumatic fever with an ever increasing susceptibility to heart damage with each subsequent attack. Still others have one attack with consequent heart damage. Some of these patients are able to live relatively normal lives because of mild damage, but others are less fortunate and have a crippling form of incapacitating heart disease which relentlessly chips off small pieces of their normal everyday living.

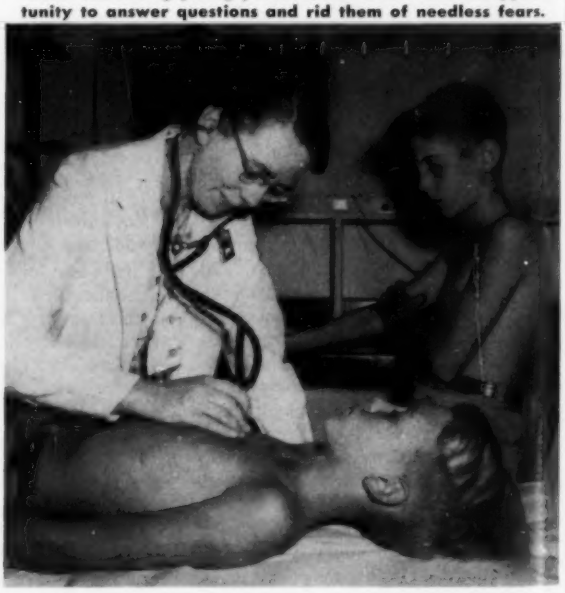
The plan recommended by the American Heart Association for children who have a history of rheumatic fever at any time and who we know are especially prone to streptococcal infections is for regular prophylaxis by penicillin or a sulfa drug administration. This is the most innocuous form of therapy to the personality of the adolescent.

For children with a history of rheumatic fever alone, in order to detect latent cardiac findings, and certainly for those children who have had cardiac damage as one of their initial manifestations of rheumatic fever, medical follow-up at frequent intervals is a vital necessity to guard their hearts against too vigorous undertakings.

This disease evokes many different emotional responses from teenagers,

The nurse has a chance to get acquainted with the patients during routine preliminaries such as checking their weight.

While examining young patients, the doctor has an opportunity to answer questions and rid them of needless fears.



The main features of therapy in rheumatic fever are bed rest and prophylactic antibiotics. The bed rest is usually for quite an extensive period. Each period of limited activity changes the attitude of the patients toward family, siblings, friends and themselves. With parents, they become either very dependent, with the possibility of subsequently becoming spoiled and incorrigible, or else very rebellious against attempted restriction of activity which, in this case, is usually quite ineffective. With siblings, they manifest a very demanding attitude or one of extreme jealousy because of being ostracized from the usual family activities and always being apart from everything and everyone, confined to couch or bed. With contemporaries from school, they develop a feeling of inferiority, since confinement in bed keeps them away from school, and unless educational opportunities have been excellent, they may be behind in classes for their chronological age and, thereby, denied social contacts with their own age group. More important, they are relegated to the role of onlookers in group activities, for it is deemed medically wiser for them not to partake in active sports. This is, of course, a bitter disappointment to the present day adolescent. With themselves they fail also, for they cannot satisfy their ambitions in some fields and they greatly fear what the future may hold in store—subsequent recurrent attacks with bed rest again?—further disability and more incapacity?—or early demise? They are denied the wealth and comfort of lasting friendships by a life punctuated by long intervals away from many of their companions who, meanwhile, have sought out other friends with interests more similar to theirs.

If our teenager has chronic disabling cardiac disease, fear is a more prominent emotion in him because he realizes he will never get well—at least not well enough to join other normal children in doing the usual activities. These children are usually aware of the severity of their illness. Fear of being unable to hold a job, have a family or have social contacts as normal people do is very real with most teenagers who are aware of a serious form of illness in themselves. And, rarely mentioned, but often present, is the fear of death in this group.

Many of these problems in each and every one of these groups of rheumatic fever victims can be solved by interested, solicitous people in authority whether it be doctors, nurses or social workers. The adolescent child should not represent a heart alone to the doctor; he should be considered a patient as a whole with multiple uncovered problems for whom understanding guidance is needed to help him face his future independently and as an accepted member of society. An attentive ear that listens to the teenager and a hand that attempts to show him the way to better medical care for himself and better understanding of his own problems and desires, with some assistance in solution, can prove to be gratifying and extremely helpful.

Various environmental factors serve as road blocks to supervision of teenagers. They allegedly do not have the time to seek medical advice and, through the physician, other aid. Many do not unburden themselves to anyone and, therefore, seem helpless. Still others are reticent to make their fears known and have a compensatory feeling of utter independence or dependence. They feel relatively well and have an insatiable desire to be included in group activities. Various sports and hobbies take preference over a visit to the doctor; part-time jobs will always win out over the same odds. The patient's last consideration is for his physical well-being as long as he feels well enough to keep up with fellow teenagers. This feeling of indifference prevails, also, about taking pills daily to prevent further rheumatic fever. The general feeling is one of good health, so they ask, "Why take medicine? That's only for sick people."

We are attempting to combat some of these erroneous notions and are attempting to win over our teenagers with their better understanding of the medical points and, in turn, our better and more adequate knowledge of their pressing problems of growing up. This adolescent stage is a most important part of their development and we must help them over the additional obstacle created by rheumatic fever.

Affording them a clinic at a time that will not conflict with sports, hobbies or part-time jobs and giving them the opportunity to receive medical care as well as seeing personnel interested in helping them with their many problems is our goal. To convince them that they are extremely susceptible to certain infections, and yet at the same time, to reassure them that continued antibiotic prophylaxis will protect them from rheumatic fever, subsequent bed rest and totally abnormal lives due to cardiac stigmata, is a challenge we must face. Adequate explanations and time alone will be the determining factors. To achieve through helpfulness friendship and the cooperation of the patient is mandatory. Teenagers must feel that we are doing everything to help them—else they will not do anything suggested to help themselves. Their feeling of independence on the one hand, and dependence on the other, dictates these actions. These are the feelings we must circumvent in an earnest attempt to deal with the entire patient and all facets of his life—the mental, physical and social aspects of a human being.

What is the role of the clinic nurse in this plan?

In getting acquainted with the teenagers, the nurse should set a congenial atmosphere in which they feel comfortable. Upon the initial contact with the nurse, our young patients should be informed that the specialty clinic is especially geared to meet their needs by affording a physical check-up and, in addition, possible answers to questions relative to future vocational training and job placement.

The nurse, as an initial interviewer, should get acquanted with the patients and find out their relationships with parents, siblings and colleagues. To learn of their former medical experiences is interesting. History of long periods of bed rest in hospitals, convalescent cottages or at home does much to shade willingness to following recommendations. The extent of the interviews depends, of course, on the volume of patients and the number of personnel available.

Following the doctors' examinations and therapeutic advice, it should be the nurse's responsibility to ascertain whether the patient understands, accepts and intends to carry out the recommendations of the physician. She can often best determine the child's attitude.

After the patient's visit to the clinic, a report of the findings should be sent to the nurse in the school health service or to an authority in a community agency interested in the continuation of health supervision of these patients. Each report should include the scheduled return date, diagnosis (including the functional and therapeutic classification) and type of prophylaxis, if necessary, and how this medication can be obtained. A statement relative to the patient's prevailing attitude, including the degree of his understanding of his existing disease, should be included, together with a final statement as to whether vocational guidance may be indicated.

"De-labeling" the cardiac is another field in which the nurse can be helpful. A murmur diagnosed as "functional" by the cardiologist, when the person has no history of rheumatic fever, is reported to the school authority as an innocent murmur. The presence of a normal heart in this child is thus established, which should free him from further restriction.

To encourage prophylaxis offers another field of endeavor in which the

(Continued on page 30)

Members of the new NFLPN executive board held their first meeting after the close of the convention in San Francisco.

Highlights of meetings and speeches by guests at the

NFLPN Convention

by Robert Smith

THE nation's licensed practical nurses aligned themselves with the country's registered nurses in opposition to the Bolton Bill for establishment of a National Committee on Nursing Services at the sixth annual convention of the National Federation of Licensed Practical Nurses held in San Francisco, October 22-30, 1955.

Other major convention actions included the admission of licensed practical nurses' associations in Illinois and Wisconsin to the national organization, and the House of Delegates endorsement of a previous executive board recommendation that the NFLPN cooperate closely with the National League for Nursing, in the future development of practical nurse education.

The House of Delegates also urged that Congress earmark Federal funds for the expansion of practical nurse training programs within the state.

The controversial Bolton Bill, H.J. Res. 171, introduced at the last session of Congress by Congresswoman Frances Bolton (R., Ohio), would establish a Commission to gather "authoritative data relating to the services rendered by all types of nursing personnel," and to "make such recommendations with repect thereto as it deems advisable in the interest of improving nursing care."

Opposition to the bill by the House of Delegates, which followed a board recommendation that the bill be opposed, was based on two major counts:

That the bill, if enacted, would represent an invasion by outside groups of control of a professional field.

That the proposed Commission could only duplicate work that has already been done by nursing organizations, universities, and research institutions, and would therefore represent a waste of time and money, beside postponing indefinitely positive action which might be taken by Congress to alleviate the nursing shortage.

In recommending to the House of Delegates that the organization oppose the Bolton Bill, the executive board pointed out that the proposed Commission would be composed of twelve members, six from various branches of the government, six from private life. The latter group would "include" representatives from the nursing and medical professions. Nurses would therefore be in a minority in the Commission membership from the beginning.

The annual convention, which drew an attendance of more than six hundred, opened formally on Tuesday, October 25, following preconvention board meetings on October 22 and 23 and a conference of state presidents on Monday. An informal session of discussion, questions, and answers was also held on Monday evening.

Praise for the "dynamic leadership" of the NFLPN in promoting mandatory licensure for all practical nurses came from Vice President Richard Nixon in a message on the eve of the convention.

Writing on behalf of President Eisenhower, who was hospitalized at that time, Mr. Nixon said:

"Your organization's dynamic leadership in promoting the licensing of practical nurses by all the states is a valuable contribution to the betterment of health care for all of us. The splendid progress the Federation has made in establishing high standards of practical nursing service throughout the nation will benefit our people for generations to come.

"As medical science advances its attack on the increasing problem of chronic disease and as our communities and states expand their services and facilities for long term illness, the need for practical nurses will increase. But your organization, in its brief life span, has given ample evidence that it is more than equal to the challenge.

"Please accept the President's best wishes for continued success."

"Sincerely,
Richard Nixon"

Major speakers at the program sessions of the convention included Dr. John W. Cline, of San Francisco, past president of the American Medical Association, and Miss Shirley Titus, retiring executive secretary of the California State Nurses Association.

Dr. Cline told the group that registered nurses, as the need for nursing care expands, will concentrate more and more on supervisory and administrative duties, throwing a constantly increasing responsibility for regular bedside nursing care on licensed practical nurses.

He warned the delegates against allowing nursing responsibilities for which they have not been adequately trained to be thrust upon them. He also stated that practical nurses should always remember their first responsibility is

(Continued on page 28)

Advances and Trends in Drug Therapy

by Joan Sarvajic, R.N.
Formerly Instructor in Pharmacology, Bellevue Schools of Nursing, New York City

Present Status of Drug Therapy in Urinary Tract Infections

Having considered the important role of chemotherapeutic agents in the treatment of infections of the urinary tract, in the January issue of NURSING WORLD, the equally important role played by the antibiotic agents will be considered.

Of the many antibiotics introduced in the past decade, few would deny that penicillin, erythromycin, streptomycin, chloromycetin, the tetracyclines, and polymyxin B merit special attention for their efficiency in eradicating certain infections of the urinary tract.

Consistent with its past history, penicillin is considered by many the drug of choice when the infection is one caused by gram positive organisms. It has been recognized as especially efficacious against Streptococcus hemolyticus, Streptococcus non-hemolyticus, and Staphylococcus aureus. A significant exception to its effectiveness against gram positive organisms is encountered in Streptococcus fecalis. This organism produces penicillinase which inactivate the drug. This is also true of many gram negative rods and therefore penicillin is useless in urinary tract infections caused by these organisms. In mixed infections, its use combined with a sulfonamide or other antibiotic is necessary, although Carroll advises that the gram negative bacilli be eradicated first, before administering penicillin.

Penicillin is eliminated through the kidneys, being filtered through the glomeruli and excreted by the tubules. Due to high volume of renal blood flow and renal excretion, tissue and urine concentration of the drug is high. The degree of concentration depends on the amount and method of drug administration. Approximately 60 percent of the penicillin administered is excreted in the first hour after injection, primarily through the tubules. The value of such high concentrations of the antibiotic agent in the system where the offending organism is found accounts in part for the efficacy of penicillin in eradicating infections of the urinary tract.

Penicillin may be given orally in doses of 100,000 Units every 2 or 3 hours, but preferably it is given intramuscularly in doses of 300,000 Units daily in the form of procaine penicillin. Medication is continued for from five to seven days; if infection is not cleared after this period of time, it is safe to assume that one is dealing with a resistant strain of organism. Relapses occur with penicillin more commonly than with the sulfonamides and resistant strains of organism are frequently found.

Erythromycin is an antibiotic which frequently replaces penicillin when patients have allergies to the latter but have infections of the urinary tract caused by organisms which are penicillin susceptible. Erythromycin is also of value against strains of organisms once susceptible to penicillin but which have apparently developed a resistant strain. In such instances erythromycin has proved an invaluable substitute for penicillin.

Streptomycin is especially effective against gram negative bacilli. Prominent among the urinary tract infections yielding to streptomycin therapy are those caused by E. coli, P. vulgaris, A. aerogenes, Ps. aeruginosa, H. influenzae, K. pneumoniae, Str. faecalis, and M. tuberculosis.*

If salutary results are to be obtained, the adequate sensitivity of the offending organism to streptomycin must be proved by laboratory test. This is essential because many strains of bacteria causing urinary tract infections have become resistant to the drug. If a good therapeutic response is to occur, it will be evident within the first day of two of therapy. Fever, leucocytosis, pyuria, bacilluria, constitutional symptoms, costovertebral tenderness, and renal function are improved and any associated bacteremia is cleared. The urine becomes sterile within the first twelve hours in a high percentage of successful cases. Pyuria responds much more slowly than bacilluria. Good results have been reported in acute and chronic pyelonephritis, pyelitis of pregnancy, cystitis, non-gonococcal urethritis, and prostatitis, and in urinary tract infections secondary to paraplegia. Streptomycin is also of value in the preoperative and postoperative management of patients subjected to genito-urinary surgery as a prophylactic measure against infection.

When renal function is not seriously impaired and the daily fluid intake is limited to 2,500 ml., the conventional dose of 1.5 to 2.0 grams of streptomycin is injected intra-muscularly in equal portions at eight-hour intervals. Since an alkaline medium favors the antibacterial action of streptomycin, 2 grams of sodium bicarbonate or some other alkalinizing salt is given every four hours. Alkali are not employed when phosphate stones are present or in patients predisposed to calculus formation by prolonged inactivation. Alkali may not be required in patients with proteus infections because this bacterial genus produces ammonia from urinary urea and thereby produces an alkaline urine which enhances the potency of streptomycin. Because of this alkaline urine, however, calcium phosphate calculi are frequent in cases of Proteus infection, and calculi favor the development of mixed infections. If alkali are not used, the urine will quickly become acid when streptomycin eradicates the Proteus organism,

* The scope of this article will not cover tuberculosis infections.

and the efficacy of the drug against the residual bacterial flora will thereby be impaired. Repeated urine cultures will detect this change in flora; alkali therapy may then be instituted.

A major limitation in the use of streptomycin in urinary tract infections is the rapidity with which bacterial resistance develops during a single course of therapy. If the bacilluria is not brought well under control before the fourth day of treatment, highly resistant organisms will have appeared in the urine by this time; further use of the drug is futile.

The original sensitivity of the organisms bears no relation to the subsequent emergence of resistance, but refractory bacteria are likely to appear when the urine is heavily infected. Fortunately, these organisms retain their sensitivity to other antibiotics. Also during streptomycin therapy, bacteria not originally present in the urine may appear and necessitate therapy with other agents.

There are many causes for failure of streptomycin to cure bacilluria. Emergence of streptomycin-resistant organisms over the years or during the course of therapy is a major cause. Obstruction of the free flow of urine by calculi, prostatic enlargement, structural abnormality, neoplasm and stricture greatly decrease chance for cure. Indwelling tubes, undrained abscesses, and granulating wounds communicating with the urinary tract may jeopardize successful therapy. Mixed infections, especially with coccal organisms, may require combined therapy with penicillin, a tetracycline, or a sulfonamide.

Chloramphenicol, or chloromycetin, is highly successful in the treatment of a variety of acute and chronic urinary tract infections caused by gram-negative bacilli such as E. coli, A. aerogenes, P. Vulgaris (certain strains), and K. pneumoniae, and by mixed flora. Observations indicate that the drug is more effective against bacillary than coccal infections. Adjuvant therapy with other antibiotics is frequently required when coccal organisms are present in addition to bacillary forms.

The total daily dose of chloramphenicol is 2 to 3 grams. The urine often becomes free of bacteria in one to three days after medication is instituted, and associated signs and symptoms clear rapidly. Administration of the antibiotic is continued at a dose level of 1 gram daily for five to seven days after the urine cultures become negative. The drug has also been used prophylactically prior to surgery on the urinary tract as well as postoperatively. Because of the possibility of hematopoietic injury from chloramphenicol, its use is best reserved for those cases failing to respond to the many other chemotherapeutic agents effective in urinary tract infections.

The tetracyclines, aureomycin, terramycin, and tetracyn, are utilized not only on serious infections of the urinary tract but also in prophylaxis prior to surgery.

E. Coli, A. aerogenes, Str. fecalis, some strains of staphylococci and of viridans and hemolytic streptococci, and certain mixed flora are susceptible to tetracyclines. A noteworthy aspect of therapy with these drugs is that they are frequently curative in cases refractory to sulfonamides penicillin, streptomycin, or their combinations.

An attempt is made to keep the urinary pH in the acid range because of the lesser stability of the tetracyclines, particularly aureomycin in an acid medium. Dysuria, pyuria, fever and associated symptoms are diminished or entirely relieved within one to four days, and urine cultures become and remain sterile in 50 to 75 percent of uncomplicated cases.

Increased bacterial resistance to the tetracyclines does not appear to develop during treatment. The usual course of medication is 1 to 2 Gm. daily for seven to ten days.

Polymyxin B is a unique antibiotic in that it has a narrow anti-microbial spectrum sharply restricted to gram negative bacilli such as A. aerogenes, E. coli, Salmonella, Shigella, and Pseudomonas aeruginosa. Its importance lies in the fact that other than mandelic acid and mandelamine, it is the only therapeutic agent effective against Pseudomonas infections.

The drug is soluble and is administered only by intramuscular route. The dosage is 2.5 mg. per Kg. of body weight. Administration is at six-hour intervals for three days. With this dosage little tubular damage or elevation of blood urea nitrogen occurs. Since bacterial resistance does not develop to polymyxin, relapses of infection can be treated by second courses of the drug.

Having surveyed the role played by both chemotherapeutic and antibiotic agents in the treatment of infections of the urinary tract, a summary follows indicating effective therapeutic agents against the more common offending pathogens. No attempt has been made to indicate the drug of choice since variations exist in this regard which are dependent on a number of factors.

ORGANISM COMMONLY FOUND IN INFECTIONS OF THE URINARY TRACT	EFFECTIVE DRUG THERAPY									
	METHENAMINE	MANDELIC ACID	MANDELAMINE	NITROFURANTOIN	SULFONAMIDES	PENICILLIN	ERYTHROMYCIN	STREPTOMYCIN	CHLOROMYCETIN	TETRACYCLINES	POLYMYXIN B
GRAM NEGATIVE BACILLI											
Escherichia coli	X	X	X	X	X			X	X	X	X
Aerobacter aerogenes				X	X			X	X	X	X
Proteus vulgaris								X	X		
Pseudomonas aeruginosa		X						X			X
Salmonella		X			X						X
Shigella		X			X						X
GRAM POSITIVE COCCI											
Streptococcus fecalis								X		X	
Staphylococcus aureus			X	X		X	X			X	
Staphylococcus albus			X	X	X					X	
Staphylococcus citreus					X					X	
Hemolytic streptococcus						X	X			X	
Streptococcus viridans						X	X			X	

Bibliography

Goodman, L. S., and Gilman, A.: *The Pharmacological Basis of Therapeutics.* The Macmillan Co., New York, 1955.

Herrold, R. D.: "Present Status of Antibiotics and Other Agents for Treatment of Urinary Infections." *Surgical Clinics of North America.* 30:69, Feb. 1950.

Kimbrough, J. C.: "The Treatment of Urinary Tract Infections." *U. S. Armed Forces Medical Journal.* 2:1061-1066, July, 1951.

Marshall, V. F.: "A Reconsideration of Treatment of Urinary Infections." *Medical Clinics of North America.* 34:525-533, March, 1950.

McDonald, H. P. *et al.*: "Modern Treatment of Urinary Infections." *J.M.A. Georgia,* 40:294-298, July, 1951.

Mulholland, S. W.: "Chemotherapy and Antibiotics in Urology." *Pennsylvania Medical Journal,* 53:240-244, March, 1950.

Riddell, H. I.: "The Management of Urinary Tract Infections." *Ann. Western Medicine and Surgery,* 4:507-510, Sept., 1950.

AUREOMYCIN — ANTIBIOTIC

DESCRIPTION: Discovered in 1948, aureomycin is obtained from the higher mold-like bacteria, Streptomyces aureofaciens.

ACTION AND EFFECTS: The mechanism of the antimicrobial action of the tetracyclines is unknown. However, on the basis of limited observations it has been suggested that these antibiotics may interfere with bacterial protein synthesis or with cellular oxidative mechanism. Aureomycin possesses a wide range of antimicrobial ability which overlaps the spectra of penicillin, streptomycin, and chloramphenicol.

USES: Aureomycin is useful in rickettsial and certain viral infections as well as in various bacterial diseases. Specific diseases include Rocky Mountain Spotted Fever, murine typhus, epidemic typhus, scrub typhus, Q fever; certain viral diseases such as lymphogranuloma venereum, and psittacosis; a large number of bacterial diseases including tularemia, brucellosis, infections caused by hemolytic streptococci and staphylococci, subacute bacterial endocarditis, gonorrhea, certain urinary tract infections, and some types of peritonitis; and a large number of other diseases including ocular infections, granuloma inguinale, chancroid, syphilis, and amebiasis.

PREPARATIONS: Aureomycin hydrochloride N.N.R. or Chlortetracycline U.S.P. is marketed in tablets of 50, 100, and 250 mg. for oral administration. The drug is also supplied as a flavored powder and soluble salt for preparations of oral suspensions and drops and as syrups and elixirs suitable for pediatric use. For intravenous administration there is Chlortetracycline Hydrochloride for Injection. It is supplied in 10 and 20 ml. rubber-stoppered vials containing 100, 250, or 500 mg. of the drug mixed with a suitable buffer. Ophthalmic Chlortetracycline Hydrochloride U.S.P. is also utilized occasionally, as are vaginal suppositories, vaginal tablets, otic and nasal solutions, troches. The latter are not official preparations.

DOSAGE AND ADMINISTRATION: Aureomycin is commonly administered orally. The usual adult dose is 250 mg. every six hours day and night. The drug may be administered by intravenous injection when special indications necessitate this route, such as critical illness requiring large doses which would cause nausea and vomiting if given orally. The total daily intravenous dose for most acute infections is 0.5 to 1.0 Gm. usually administered in two equal portions at twelve-hour intervals. Up to two grams per day may be given in severe infections. The intravenous preparations of aureomycin have been administered intrathecally in doses of 1 to 5 mg. in patients in whom adequate cerebrospinal fluid concentration of the antibiotic could not be attained by intravenous medication.

TOXICITY: The most frequent complaints from aureomycin therapy are referable to the gastrointestinal tract and mucous membranes. Severe side effects result from superinfection by the tetracycline-resistant organisms. Commonly encountered gastrointestinal symptoms include epigastric distress, heartburn, nausea, and vomiting.

PRECAUTIONS: Because the incidence of gastrointestinal distress and particularly of tetracycline-resistant bacterial enterides increases as the dose of the antibiotic is increased, the minimal dosage compatible with the desired therapeutic response is recommended. Gastrointestinal distress, nausea, and vomiting can be minimized by the administration of aureomycin with meals, milk, or antacids, but antacids containing aluminum hydroxide or silicate interfere with drug absorption and should not be employed.

POLYMYXIN — ANTIBIOTIC

DESCRIPTION: The polymyxins are a group of closely related antibiotic substances obtained from the metabolism liquor of various strains of Bacillus polymyxa (B. aerosporus), an aerobic spore-forming rod found in soil.

ACTION AND EFFECTS: The activity spectrum of polymyxin is unique in being very narrow and sharply restricted to gram negative bacteria, including Aerobacter, Eberthella, Escherichia, Hemophilus, Klebsiella, Pasteurella, Pseudomonas, Salmonella, Shigella, and Vibrio. Bacteria initially sensitive to the antibiotic rarely acquire resistance to it. The drug is rapidly bactericidal. Peak levels of the drug are attained in about one-half to two hours after injection; six hours after the infection, half the peak concentration is still present and the antibiotic is detectable in the plasma for twelve hours or more. Polymyxin disappears slowly from the plasma and tends to accumulate upon chronic administration. Although very little polymyxin is eliminated by the kidney during the first twelve hours after injection, large amounts of the antibiotic are eventually excreted by this route. Elimination continues for one to three days after the drug is stopped.

USES: Polymyxin B is used in treating a variety of infections caused by gram negative bacteria. It is particularly effective in the therapy of pseudomonal bacteremia, meningitis, and urinary tract infections, and of meningitis caused by other gram negative bacilli such as A. aerogenes, E. coli, K. pneumoniae, and H. influenzae when these bacteria are more sensitive to Polymyxin B than to other effective antibiotics as determined by microbiological assay. The drug is also used topically for the treatment or prevention of local cutaneous and mucosal infections caused by susceptible microorganisms, especially Ps. aeruginosa. The drug has been given orally for the therapy of certain intestinal infections such as Shigella and Pseudomonas enteritis.

PREPARATIONS: The ointment and tablets are official preparations. The antibiotic is also marketed in 20 and 50 mg. vials for parenteral injection, and as a sterile powder for topical application.

DOSAGE AND ADMINISTRATION: Polymyxin B can be given by mouth for its local action in the intestinal lumen, by intramuscular injection for systemic effects, by intrathecal instillation for meningitides, and by topical application. Oral dose for children and adults is 75 to 100 mg. four times daily; for children up to two years of age, 25 to 50 mg. three times daily. It is ordinarily injected in three equal amounts at intervals of six to eight hours. The intramuscular injection is prepared by dissolving 50 mg. of Polymyxin B in 0.5 ml. of 1 percent sterile procaine hydrochloride solution.

TOXICITY: In man, parenteral injection of polymyxin can adversely affect the nervous system and the kidneys. Some patients experience paresthesia and hypesthesia of the extremities, mouth, face, and scalp, weakness, slight vertigo, and nausea, even after conventional intramuscular doses. Except for circumoral flush, manifestations are largely subjective. Nephrotoxicity is rarely observed in patients with normal kidneys. It may appear in patients with pre-existing impairment of renal function. The unusual manifestations are those of both glomerular and tubular damage. Albumen, red blood cells, leucocytes and occasionally granular casts are found in the urine.

PRECAUTIONS: The possibility of polymyxin-induced renal dysfunction necessitates that the parenteral administration of the antibiotics be limited to patients under close medical and laboratory check-up.

S-R-D — ANTIBIOTIC COMBINATION

DESCRIPTION: S-R-D is a combination of Penicillin S-R with Dihydrostreptomycin.

ACTION AND EFFECTS: A combination of two agents such as penicillin and streptomycin extends materially the antibiotic range and clinical effectiveness of each drug. Several investigators have noted the synergistic action of penicillin and streptomycin *in vitro*. S-R-D provides an extended range of antibacterial activity as would be anticipated. Because of the penicillin content, susceptible gram positive organisms will be destroyed, whereas with streptomycin the susceptible gram negative pathogens will be destroyed. The mechanism of action of S-R-D really represents the action of penicillin and dihydrostreptomycin. Penicillin-sensitive bacteria are not only inhibited in their growth but are actually killed by adequate concentrations of penicillin. How this is accomplished is not known but there are certain provocative leads. In the final analysis, penicillin kills bacterial cells by some fundamental disruption of metabolic processes. Theories presented for the mechanism of action of dihydrostreptomycin are comparable to those of the parent compound, streptomycin The theories have in common the tenet that the drug interferes with bacterial cell division or synthesis of protoplasm by blockade of specific enzyme systems essential for these processes.

USES: S-R-D offers a combination for treating the multiple and the mixed infections commonly encountered in the urinary tract. It is the usual practice of most clinicians when confronted with a patient presenting signs and symptoms of urinary tract infection and having demonstrable pus in the urine to prescribe antibiotics or chemotherapeutic medication without awaiting information concerning the pathogen. Although combined therapy may not represent the ideal rational treatment, it is recognized that it may be justified by the necessity of instituting prompt treatment. In addition to its use in mixed infections of the urinary tract, S-R-D is also utilized in deep-seated infections such as bacterial endocarditis and prophylactically prior to surgical procedure.

PREPARATIONS: S-R-D is available in Steri-Vials in 1 and 5 dose sizes in two potencies: 0.5 Gm. and 1.0 Gm. of Dihydrostreptomycin and Streptomycin combined with a 400,000 unit dose of S-R.

DOSAGE AND ADMINISTRATION: A single dose of S-R-D may be injected usually twice daily. Injection may be into deltoid, triceps, or quadriceps, but preferably into gluteal muscles.

TOXICITY: Toxic manifestations from S-R-D would represent toxicity from individual antibiotics making up the combination. Penicillin, it will be recalled, is probably one of the least toxic antibiotics. Only 3 percent of all patients on penicillin therapy develop signs of toxicity, and this as a hypersensitivity or allergic manifestation. Streptomycin and dihydrostreptomycin combined exert a lesser probability of eighth cranial nerve damage.

PRECAUTIONS: The nurse should utilize the same precautions when administering S-R-D as she observes when she is giving either of these medications individually. The upper outer quadrant of the buttocks, where injection into muscle will avoid injury to bone, muscle, nerve, remains the common site of intramuscular injection.

STREPTOMYCIN — ANTIBIOTIC

DESCRIPTION: Streptomycin is an antibiotic discovered in 1944 from cultures of a higher mold-like bacteria, the Streptomyces griseus.

ACTION AND EFFECTS: Streptomycin has a wide spectrum of antibacterial activity. It is particularly effective against gram negative bacilli. Among the organisms most susceptible to the antibiotic *in vitro* are B. anthracis, K. pneumoniae, Pasteurella pestis, Pasteurella tularensis, H. influenzae, N. gonorrheae, Shigella, Leptospira, Donovania granulomatosis, and M. tuberculosis. No definitive statement can yet be made concerning the mechanism by which streptomycin exerts its antibacterial effects.

USES: Streptomycin is used in a number of medical and surgical infections caused by gram negative bacteria susceptible to its antibiotic action. The diseases in which it is effective include tularemia, meningitis, bacteremia, urinary tract infections, granuloma inguinale, and plague. It is an exceedingly important adjuvant in the treatment of a variety of tuberculous infections. The drug is often of considerable value in peritonitis, subacute bacterial endocarditis, and bacillary pneumonias, and as a prophylactic agent prior to large bowel surgery.

PREPARATIONS: Streptomycin sulfate is the only official preparation of this antibiotic. It is supplied for parenteral injection either as a sterile, dry powder or in sterile solution; each vial contains the equivalent of 1 or 5 grams of the respective base. Streptomycin is also provided in the form of 0.1 gram tablets for the preparation of aerosol solution.

DOSAGE AND ADMINISTRATION: Intermittent deep intramuscular injection is the method most often used for parenteral administration of streptomycin. The drug is dissolved in either pyrogen-free distilled water or in physiological saline solution. The total dose varies from 2 to 4 grams in severe infections caused by a highly sensitive microorganism. As a rule, injections are given at six to twelve hour intervals for at least 48 to 72 hours after the fever has subsided and all of the signs of infection have disappeared. Not over 2 ml. are injected at any one site; the gluteal, thigh, triceps, and deltoid muscles may be used in rotation.

TOXICITY: Whereas conventional doses (2 to 4 grams per day) given for not more than one week rarely produce severe toxic effects, the more prolonged use of the drug is accompanied by a high incidence of serious neurotoxicity. The main danger is damage to eighth cranial nerve. Delayed neurotoxicity is manifested chiefly by vestibular disturbances and, at times, by auditory impairment. Patients who are to receive long-term medication with the streptomycins should have preliminary audiometric and labyrinth tests which should then be repeated at monthly intervals during the course of treatment.

PRECAUTIONS: A major disadvantage and cause of failure of therapy with the streptomycins is the development of bacterial resistance to the drugs, especially when they are administered for prolonged periods in chronic infections such as subacute bacterial endocarditis and tuberculosis. Certain strains of many different bacterial species are not only resistant to streptomycin but also dependent on the drug for their growth. The clinical importance of the phenomena of dependence arises from the fact that such bacteria can develop during therapy; their growth would then be unwittingly fostered by giving the drug designed to eradicate them.

COMMENTARY

by Louise Candland, R.N.
Industrial Nursing Editor

The world would probably be in the dark ages if it were not for records. History, literature, music, medicine, and nursing, if you like, might never have been.

The notes kept by the early nursing sisters were valuable to Florence Nightingale when she literally pulled the profession out of the disrepute into which it had fallen. She used those early records along with her own writings to demonstrate to the world that nursing and medicine must be joined together to give the sick and injured the care they needed.

Records became a routine part of the nurse's professional life. The progress of the patient was recorded in minute detail. The physician used the "chart" as a means for diagnosing and prescribing treatment. In time these records were used in medical research and they helped in the evolution of the precise knowledge of symptoms.

The use of records in industrial medicine is surprisingly old. Various types of occupational diseases were recorded in Egypt and Greece. In American history, Benjamin Franklin, among others, left very valuable details on lead and other metal poisonings. Lewis Carroll's "Mad Hatter" in *Alice in Wonderland* became mad, according to medical history, because of the fact that he was exposed to large amounts of mercury in the making of felt hats. The problem of radiation poisoning was also brought to light because of records kept on the workers who painted radium dials on watches.

There are numerous examples which could be used to emphasize the fact that records are vital. Yet industrial medical records, especially in small plants, are often incomplete. The average small industry without a nurse or physician gets along with the minimum of record-keeping, often using only a copy of the compensation form. Even larger plants with full-time nurses sometimes have such inadequate records that one wonders how they manage to meet even legal and ethical requirements.

Many nurses have told me that they fully remembered what ailment or injury a worker reported, only to find themselves in trouble when asked for details. Information kept in one's head is of little help to the worker, the employer, or the nurse.

On the other hand, many nurses make the mistake of having too many records. Information is duplicated and laboriously copied from one form to another. Sometimes the daily work-sheet is recopied just for the sake of appearance. I knew one nurse whose record system was so complicated that only she and the nurse who relieved her for vacation knew how it worked. Neither of them seemed to know why.

We still find nurses who like to use the large black ledger to record daily visits to the medical department. These records no doubt contain valuable information but it is in a very cumbersome form. If the nurse wants to make a statistical summary for the safety department, or the personnel department, she practically has to resort to finger counting. This is at best inaccurate and time-consuming.

Dr. Franco's article on the value and effective use of industrial medical records should help us all do a better job for ourselves and our employers. We might also consider the value of our efforts to the future of industrial medicine and nursing. All of us are in a position to contribute to the growing amount of knowledge about the causes and prevention of disease, accidents, absenteeism, emotional problems, and so forth. We can also share our experiences in developing better techniques, better equipment, and more effective use of our time and skills. We might do well to parapharase the slogan of the politicians and say, "What have I contributed to my special field of nursing? Let's look at the record."

$8,250.00 FREE SCHOLARSHIPS
offered
REGISTERED NURSES

New Post-Graduate courses are offered registered nurses to become Kenny Therapists for service in:

1. Polio. 2. Other neuro-muscular diseases. 3. Complete rehabilitation work.

NEW CLASS starts March 19, 1956 at Elizabeth Kenny Institute and includes one year of physical therapy and certificate at Mayo Clinic and other schools. Total course is of 30 months duration.

ADDED opportunities, upon completion include:

1. Liberal salaries.
2. Guaranteed continuous employment.
3. Up to four weeks annual vacation.
4. Liberal security benefits.
5. Generous retirement plan.
6. Excellent working conditions.
7. Opportunities for wide travel.

Complete details and an application blank may be obtained by writing:

Director of Training
SISTER ELIZABETH KENNY FOUNDATION
National Headquarters
2400 Foshay Tower, Minneapolis 2, Minn.

The industrial nurse is frequently required to make, keep, and work with

Medical, Legal, Statistical Records

by S. Charles Franco, M.D., F.A.C.P.
Associate Medical Director,
Consolidated Edison Co. of New York, Inc.

THE importance of records in the industrial medical establishment has been emphasized as a fundamental means of summarizing our experience with illness, injury and costs. Records and reports are to the industrial nurse what bookkeeping is to the accountant. They are the firm foundation for illness and accident analysis. The compensation laws also demand that accurate records be maintained for filing of information concerning claims and

CONSOLIDATED EDISON EMPLOYEES' MUTUAL AID SOCIETY, INC.

DOCTOR AND NURSE ON DUTY	FROM A. M.	TO P. M.

DAILY REPORTS OF MEDICAL BUREAU VISITS

INSTRUCTIONS

1. - TO BE PREPARED DAILY IN EACH OFFICE BY THE NURSE ON DUTY
2. - ALL INFORMATION IS TO BE INCLUDED ON FORM
3. - IF A PATIENT IS HOSPITALIZED, ENTER NAME OF HOSPITAL

DATE _____ SHEET NO. _____

MEDICAL BUREAU LOCATION

OFFICE _____ NUMBER _____

	NUMBER	ILLNESS CODE: MASTER CODE	ILLNESS CODE: SUB-CODE	ILLNESS CODE: FOR LETTER INDICATING HOSP., ETC.	TYPE OF VISIT: ORIGINAL	TYPE OF VISIT: REVISIT	TYPE OF CASE: COMP.	TYPE OF CASE: MEDICAL	TYPE OF CASE: PRE-EMP.	TYPE OF CASE: SPEC. EXAM	TYPE OF CASE: FIRST AID	TYPE OF CASE: DENTAL	TYPE OF CASE: CHARGE EXAM.	DATE OF ACCIDENT	BASAL METAB.	E.K.G.	SED. RATE	REST TO HOSPITAL	NAME OF EMPLOYEE (USE ONLY ON COMPENSATION, PRE-EMPLOYMENT AND FIRST AID TO NON-EMPLOYEE CASES) / NAME OF HOSPITAL (FOR MEMBERS REFERRED TO HOSPITAL)
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
TOTAL																			

10-60 (P&D) 6M 6-61 MEDICAL

Figure 1

liability suits. It is understandable that the Medical Department should provide Management with a concise report of each year's work because they are concerned with end results and with the justification of expenditures. In fact, records and reports are the best way to prove to Management the value derived from a medical service in industry.

It is a basic principle in records management that the industrial physician has the responsibility for the keeping of medical records. However, in a great many instances the industrial nurse will actually work with the record and it is important that she understand what data are necessary and how the records are to be kept. The nurse's responsibility on this score is determined by the extent to which medical and safety services have been organized within a particular plant or company. In plants where there is at least one full-time physician, the nurse's responsibility is entirely dependent on what is delegated by the physician. Normally, her duties include completing and filing records. In plants where the medical service is part-time, or where the doctor serves only "on call," the nurse's responsibility increases proportionately. In such instances, the nurse should have the guidance of written medical directives outlining the procedures to be followed. As a basic principle, nurses must refrain from doing anything which might be construed as practicing medicine.

Record forms should be revised periodically. In actual practice, the usual way to make up a record form is to adapt the material from several similar forms to our own particular use. After a time it is usually discovered that something which is needed was not included in the original form; hence the need for revision. It is to be understood that since Medical Department records contain confidential information, they are to be kept in suitable fire-resistant metal files, equipped with a proper locking device to insure safe storage. They should be available only to authorized Medical Department representatives. It is recommended that all medical records be kept in the Medical Department itself and available for use each time a worker presents himself for care.

The following types of records and reports are normally maintained in an industrial medical service:

1. Daily record or log.
2. Individual records including first-aid report, clinic visits, medical examinations and laboratory studies.
3. Compensation records and reports.
4. Occupational disease control studies.
5. Absenteeism records.
6. Monthly and annual reports.

Keeping separate Daily Record sheets for injuries and illnesses, respectively, tends to simplify records analysis. Filling in daily or weekly summary sheets will facilitate the preparation of monthly and annual recapitulations.

Individual records sometimes become the nurse's responsibility entirely, whether she works under full-time medical supervision or only under "standing orders." The First-Aid Report is a good example. This form usually has spaces for the following items:

1. Employee's story.
2. Condition found or complaint.
3. First Aid treatment that was given.

The employee's story is most important, particularly in an accident case. It must be accurate. The patient should be approached properly and an open-minded but friendly attitude must be maintained. The best way to get a detailed history is not to talk down to the patient.

Any medical record usually contains these basic items:

1. Personal Items (employment data):
   Name and address.
   Shop number.

EVERY LISTED PEDIATRIC SPECIALIST was questioned by an independent research organization about an article published in the Archives of Pediatrics. These specialists were asked whether they agreed with the reprint material.

Of the pediatricians who believed their experience justified an opinion, 156—81.7% replied yes to all three points in question.

4 out of 5 Leading Pediatricians agree that CREAM OF RICE

a **gives "more available caloric energy"** than any wheat, rye, barley, corn or oat cereal. Of the 227 pediatricians answering definitely, 192—84.6%—said yes.

b **is "more easily digestible"** than any other kind of cereal. Of the 248 answering definitely, 212—85.5%—said yes.

c **gives "nutritional energy more rapidly"** than any other kind of cereal. Of the 220 answering definitely, 178—80.9%—said yes.

In addition, Cream of Rice is

Most Hypoallergenic, too

NEW, ½ Minute Cooking Time—10 Times Faster! NEW, Easy-Pouring Spout!

As reported in the Archives of Pediatrics by Slobody, Untracht and Hertzmark, "rice . . . shows the fewest allergic reactions of any cereal checked . . . Even children potentially allergic to rice have been shown to tolerate it well when it is cooked in the presence of moisture."

WRITE FOR PROFESSIONAL SAMPLES:
GROCERY STORE PRODUCTS CO., DEPT. NW-12,
WEST CHESTER, PA.

Age.
Sex.
Race.
Marital condition.

2. Plant Items (occupational data):
   Department.
   Occupation.
   Previous occupation.
   Length of employment.
3. Scientific Items:
   Physical-examination classification.
   Diagnosis.
4. Economic Items:
   Amount of time lost.
   Amount of equivalent wages lost.
   Cost of physician, drug, and hospital expense.
   Amount of compensation paid.
   End-results.

In the case of physical examinations as pre-employment, periodic or special, the nurse may obtain the history, or she may check it after it has been written by the applicant or employee. The findings of the physical examination may be recorded by the physician himself or transmitted to the nurse to complete the record. A common error in the recording of the physical examination is to insert only the positive findings. Experience indicates that no space should be left blank, since in the event of a claim, it is important that the portion of the body involved in dispute should have negative as well as positive findings recorded.

The records of these examinations play an important role in preventive medical practices in industry. The pre-placement examination establishes safe medical standards for employment or the proper placement of an individual at a job which will not aggravate his medical condition or cause him to be a hazard to fellow workers. Periodic examination may uncover the early signs of chronic disease and is important in the prevention of the development of serious disease. Records are also important in the supervision of the correction of physical defects found on such examinations. Finally, accurate medical records of examinations enable the physician to make intelligent recommendations for safe work assignments.

The impact of compensation laws which made accidents a prime responsibility of management was perhaps the first stimulus to keeping adequate medical records. Accurate records became essential for the keeping of data necessary for the filing of information concerning liability suits and claims. When the emphasis shifted to the prevention of accidental injury and industrial safety programs were organized, it became evident that the analysis of accident records was fundamental to the success of the program. Certain minimal requirements have been recommended as a guide for development of an accident record system:

1. Personal Items (employment data):
   Name and address.
   Shop number.
   Age.
   Sex.
   Race.
   Marital condition.
2. Plant Items (occupational data):
   Department.
   Foreman's name.
   Occupation.
   How long employed.
   Physical-examination classification.
   Were guards provided and in place?
   Could they be used?
   Cause—Mechanical or non-mechanical.
3. Scientific Items:
   Part of body injured.
   Nature and extent of injury.
   Treatment.
4. Economic Items:
   Amount of production time lost.
   Amount of wages lost.
   Cost of physician, drug, and hospital expense.
   End-results.

A careful and detailed account of the accident causing the injury will not only make a strong record in the case but will materially assist in the diagnosis of the injury and serve as a guide in recommendations for treatment. Nowhere in industrial practice is the relationship of careful recording and successful treatment more evident than in the case of an industrial accident. This is truly the "pay-off" to an adequate medical service in industry. Conversely, nothing is more disheartening than the incomplete record of the facts of the accident and the subsequent medical treatment.

The compensation laws in each state require the submission of standard report forms and follow-up reports to the Workmen's Compensation Commission. It may be the nurse's responsibility to bring these to the attention of the physician.

As with the industrial accident, the physician has the responsibility for diagnosis, treatment and estimation of disability in cases of occupational disease. Medical records play an important part in the etiological classification, toxicology, medical management, prevention, and disability evaluation. While occupational disease is outranked by accidents and non-occupational illness as a cause of disability, the difficulties of diagnosis and the lack of proper reporting have prevented us from accurately picturing the present extent of occupational disease. Many occupational diseases are indistinguishable clinically from similar diseases which are non-occupational in origin and diagnosis depends on inquiry concerning the industrial environment. The expanding variety of chemical exposures and the preponderance of exposures occurring in small plants where control is more difficult also add to the problem.

The findings of the clinical examination must be recorded on a form in such a way that all essential data can later be abstracted and tabulated. The laboratory phase is important in any medical program for the prevention of occupational disease, especially in those groups exposed to chemicals whose effect is unknown. Certain basic laboratory studies are more valuable than others in the analysis of group data, but ordinarily in "hazard studies" the following tests should be accomplished: Hemoglobin, Red Cell Count, Cell Volume, White Blood Cell Count and Differential, Reticulocyte Count, Urinalysis, and Cephalin Flocculation. These are the minimal findings which should be recorded. Additional tests may include the Sedimentation Rate, Icteric Index and Thymol Turbidity.

The losses resulting from sick absenteeism among industrial employees are a matter of great concern. It is acknowledged that more than 90 per cent of absenteeism is due to non-occupational sickness. The factors producing disabling sickness and accidents have been classified into five broad cause groups: respiratory diseases, digestive diseases, non-respiratory—non-digestive diseases, non-industrial accidents and industrial accidents. In contrast to studies which have been made in the control of occupational accidents and specific occupational diseases, very little has been done in the past to study the non-industrial causes of absenteeism arising among industrial employees. The first step in this direction was taken by the Industrial Hygiene Foundation in 1940 when it proposed a plan for the accurate recording of sick absenteeism. This plan required the filling in of a punch card for each absence and the recording on two separate forms of the number of workers under observation. In general, the statistical data is compiled to yield the following:

1. Frequency Rate: Average annual number of absences per thousand workers.
2. Disability Rate: Annual number of days lost per worker.
3. Severity Rate: Average number of days lost per absence.

In certain industries it is important to obtain sick absenteeism rates accord-

ing to occupation, because sickness rates for specific diseases in an occupational group will allow evaluation of the effect of the working environment on health. Excessive rates for certain causes will call for epidemiological studies; these in turn may lead to improvement of those conditions which may be the cause of undue amounts of disability.

The various state disability laws now require examination by a physician to certify sick absenteeism. These records will often be made available to the nurse as the first step in processing them by the Payroll Department. The nurse should have accurate knowledge as to the status of the employee and the medical information which may be required.

Each industrial medical establishment should make an annual summary of its injury and illness experience and costs. A summary form originally recommended by the American College of Surgeons provides the following information:

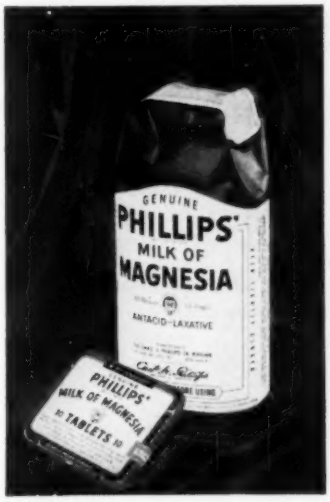
Annual Statistical Summary

1. Name of company.
2. Address.
3. Nature of industry.
4. Average number of employees—Male—Female.
5. Number of injuries during the year.
6. Number of lost time injury cases; lost time occupational disease cases.
7. Number of employees receiving compensation for industrial injuries; for occupational diseases.
8. Injury frequency rate (Number lost time injuries x 1,000,000 divided by total man hours worked).
9. Injury severity rate (Number days lost x 1,000 divided by total man hours worked).
10. Working days lost:
    From industrial injuries.
    From occupational diseases.
    From non-industrial injuries and illnesses.
11. Number of employees hospitalized for industrial injuries and occupational diseases.
    Total days of hospitalization.
12. Number of dispensary visits during the year.
13. Medical and compensation costs (Industrial injuries, occupational diseases, and medical preventive measures for employees only).
    a. Doctors' and nurses' services (including consultants' fees).
    b. Outside hospitalization expense for compensation cases.
    c. Administration (clerical, etc).
    d. Supplies.
    e. Compensation paid to employees (compensable cases).
    f. Total cost (sum of a, b, c, d, e).
    g. Cost per capita.
    h. Cost per $100.00 payroll.

These annual summaries can reveal trends and results when compared from year to year and can uncover weak points that may exist. This information can also provide Management with a concise report of the year's work and a justification for expenditures incurred.

The keeping of medical records is really an index of the quality of medical service being rendered in industry. We know that all the benefits of a good medical service cannot be measured in terms of dollars and cents alone. However, from a practical point of view, one of the best means to sell a medical service to business and industry is to show that it has real value in the overall contribution to productive capacity by reduction in sick absenteeism and the prevention of occupational diseases and industrial accidents. The proper keeping of medical records is the first step in this direction.

An Ideal Antacid-Laxative



PRE-EMINENCE

In every field, pre-eminence is gained by consistent quality and demonstrated dependability over many years. Phillips' Milk of Magnesia has won such a position as the ideal laxative and antacid. For over 75 years it has been the overwhelming choice of doctor and consumer alike.

PREPARED ONLY BY THE CHAS. H. PHILLIPS CO. DIVISION OF STERLING DRUG INC., 1450 BROADWAY, N.Y. 18, N.Y.

NFLPN Convention

(Continued from page 18)

to the public and their patients, and should not allow their organization to be "used" by any other group.

"Don't let yourself be drawn into any quarrels," he advised.

Somewhat similar, if more specific, advice was given the delegates at the program session on the following day, Thursday, Oct. 27, by Miss Titus, who advised practical nurses to unify their own organizations and avoid alliances with any outside group.

"Don't be flattered if the medical profession smiles on you," the nursing executive warned. "We registered nurses prefer not to have doctors or employers of nurses on State Boards of Examiners. We prefer to manage our own affairs. Outside groups have more reasons than you could imagine for trying to influence you."

Registered nurses themselves are still divided into two groups, Miss Titus said in urging the practical nurses to "unify—just as fast as you can."

She also echoed Dr. Cline in warning the nurses against permitting themselves to be assigned duties for which they have not been trained.

"Day-by-day efforts are made in every hospital in the country to induce registered nurses to practice medicine," she declared. "The registered nurse learned long ago to resist this."

Now, she said, there is a tendency among employers to use licensed practical nurses for other purposes than the bedside care of the sick.

This represented no promotion for the practical nurses, she said, in declaring that the major social contribution of the nurse is bedside nursing care.

Also on the Thursday afternoon program was Mr. Harry G. Swift, Sales Consultant, whose topic was, "We, Unlimited." A film was also shown, through the courtesy of Winthrop-Stearns Inc.

Social events at the convention included "California Hostess Night" on Monday evening, when the practical nurse associations of Arizona, California, Hawaii, and Washington State held a reception and entertainment for delegates and guests, and the annual banquet on Thursday evening, October 27. Dr. Richard Armour, humorist and writer, was the banquet speaker.

The banquet was also the scene of the traditional candlelight installation of officers. Officers elected or re-elected at this year's convention were:

Mrs. Margaret Baird, Richmond, Virginia, re-elected president; Mrs. Clara Roitero, Brattelboro, Vt., re-elected first vice president; Miss Anna Kennerup, East Orange, N. J., elected secretary. Directors elected or re-elected to the executive board were: Mrs. Della Addington, Phoenix, Arizona, elected; Mrs. Grace Appel, Covington, Ky., elected; Mrs. Julia La Pella, Des Moines, Iowa, elected; Mrs. Lillian K. Sterling, Albany, N. Y., elected and Miss Katherine T. Garrity, Dorchester, Mass., re-elected.

A tour of San Francisco was made on Friday morning, preceding the closing business session of the convention that afternoon. Post-convention meetings of the new executive board were held on Saturday and Sunday, October 29 and 30. The House of Delegates voted to hold the 1957 convention in Hartford, Conn.

Following the close of the convention, Mrs. Lillian E. Kuster, NFLPN executive secretary, visited Hawaii to attend the third annual convention of the Hawaii Practical Nurses Association. She was accompanied by Mrs. Christine B. Quell, president of the Practical Nurses of New York, Inc., and Mrs. Margaret Bassett, past president of the New York organization.

Nurses' Workshops in Cardiovascular Diseases

(Continued from page 15)

interpersonal relations. Discussions and demonstrations were centered upon personal interactions between nurse and patient as well as between the nurse and her colleagues. The final meeting included a review of teaching methods and materials with emphasis upon use and effectiveness of incidental teaching.

Evaluation methods similar to those used in previous workshops helped the planners assess each meeting. Follow-up evaluation to determine how the participants were able to use this workshop experience is not yet completed.

Workshops For Nursing Home Personnel

Following a request for a series of regional workshops designed for nursing home personnel, representatives of the Heart Association met with a state committee of nursing home operators and staff members of the Nursing Home Division of the State Health Department. At this meeting, regional areas were selected in which workshops would be given. The nursing home operators agreed to appoint regional chairmen to help the Heart Association members organize regional workshop planning committees. One such workshop has been completed.

The initial step in helping the local area to accept responsibility for planning was a meeting of Heart Association representatives with a small group of local nursing home operators to identify the problems in caring for patients. Discussions with local physicians whose patients were receiving nursing home care pointed out patients' needs from the medical viewpoint.

A workshop planning committee was then organized which included nursing home personnel, nurse educators from the local school of nursing and school of practical nursing, as well as representatives from the fields of public health nursing, medicine, nutrition, public health education, medical social work, occupational and physical therapy.

After reviewing the problems of patient care, the planning committee defined the content, formulated educational objectives, outlined a tentative program, selected teaching methods, and planned for evaluation. Registration was limited to 40 participants, including both nursing service personnel and nursing home operators. The workshop opened with a discussion of the areas in which the participants needed and expected help, and the tentative program was revised to meet these expressed needs.

The two-day session was centered on the patient with special emphasis on physical and emotional needs of the normally aging person. Demonstrations included food preparation for the older cardiac patient, medicines, treatment procedures, and an occupational therapy program for nursing home patients. Proper positioning of the patient in bed, teaching the patient proper use of canes and crutches, use of walkers and lifts, and oxygen therapy were practiced by the participants.

The immediate evaluation of the workshop indicated that the content and teaching methods were successful in meeting workshop objectives. Future study will determine the degree to which the workshop experience has been of value to the nursing homes.

Summary

The three workshops described above illustrate how a carefully planned guide can be used as the basis for planning workshops geared to the special problems of various nursing groups. However, as a result of the experience of the Heart Association, it cannot be stressed enough that much more is needed in addition to this guide. Each step is the result of participation by many people. It is the degree and quality of this participation, and the warmth of interaction between teachers and participants, that give vitality and validity to the workshops and create the necessary permissive atmosphere in which learning can take place.

THE BOOK SHELF

Anna V. Matz, R.N.,
Public Health Nursing Consultant,
New York City Department of Health

The Management of Acute Poliomyelitis.

By C. P. Scott, S.R.N., C.M.B., Diploma of Poliomyelitis Nursing (U.S.A.) and M. Fischer-Williams, M.R.C.P. Ed., Senior Neurological Registrar, Birmingham United Hospitals, formerly Neurological Registrar, Oxford United Hospitals. Foreword by W. Richie Russell, C.B.E., M.D., F.R.C.P. Ed., F.R.C.P. Lond., Consultant Neurologist, United Oxford Hospitals. The Williams & Wilkins Co., Baltimore, Maryland, 1955. Pages 99. Price $3.00.

Outbreaks of acute paralytic poliomyelitis give rise to anxieties and fears in a community. Even though the greatest percentage of reported cases are non-paralytic, the small group that develops residual paralysis requires the best possible nursing care for recovery and rehabilitation of the patient. This book is concerned with nursing care of the polio patient during the acute period of illness, and the emphasis is on the mechanics of management. These are described in outline as well as in narrative form. Because of its conciseness, it holds the interest of the reader and is easy to follow. The illustrations are pertinent and very descriptive. The chapter on passive movements is particularly helpful because of the illustrations and the explanations that are given.

The authors explain in their introduction that the rehabilitative, social and psychological aspects are omitted because they are part of the convalescent stage. While recognition is given to the vital role the nurse plays in return of the patient to the community, the subject matter is limited to treatments, body alignment and nursing care of patients. One interesting point emphasized in body alignment is the constant wearing of light boots by all children to prevent foot drop.

The book is divided into fourteen chapters and four appendices. The topics discussed include the following: Chapter 1, "The Nature of the Disease," Chapter 2, "Isolation Technique," Chapter 3, "The Clinical Picture," Chapter 4, "Admission and Equipment," Chapter 5, "Trunk and Limb Paralysis," Chapter 6, "Nursing Care in Trunk and Paralysis and Non-Paralytics, Limb," Chapter 7, "Hot Packs," Chapter 8, "Physiology of Respiration," Chapter 9, "Bulbar Poliomyelitis," Chapter 10, "Nursing Care in Bulbar Poliomyelitis," Chapter 11, "Types of Respirators and the Principles Involved," Chapter 12, "Nursing Care of Patients in Respirators," Chapter 13, "Weaning A Patient Out of A Respirator," Chapter 14, "Bulbo-Spinal Paralysis." The appendices include: (1) "Equipment for Poliomyelitis Unit," (2) "Passive Movements," (3) "Flexibility Exercises," and (4) "Patient's Personal Account of Four Months in A Respirator."

The general principles used in this book are those recognized and accepted as fundamental in nursing care of the poliomyelitis patient. The purpose of this book is to provide information for nurses interested in giving care to patients during the acute period and also as a reference for instructors and students.

Textbook of Anatomy and Physiology.

By Diana Clifford Kimber and Carolyn E. Gray, R.N. Revised by Caroline E. Stackpole, M.A., formerly Associate in Biology at Teachers College, Columbia University, and Lutie C. Leavell, R.N., M.A., M.S., Assistant Professor in Nursing Education, Teachers College, Columbia University. Thirteenth edition. The MacMillan Company, New York, 1955. Pages 850. Price $5.00.

Nurses who are personally acquainted with the authors as teachers and specialists in this field will fully appreciate the high standard of this text on anatomy and physiology. The fine literary quality, the excellent illustrations, diagrams, and summaries make this an outstanding book for use in teaching nursing students. Consistent with new knowledge from research centers, new materials on hormonal functions and cells have been incorporated. A new chapter on water and electrolyte balance and buffer action has been added. The chapter on muscles has been completely revised, with emphasis placed on functional relationships.

The Table of Contents lists five units: Unit I, "The Body as a Whole—Structural and Functional Relationships and Organization." Unit II, "The Structural and Functional Relationships for Correlation and Coordination of External Activities." Unit III, "The Structural and Functional Relationship for Correlation and Coordination of Internal Activities—Metabolism." Unit IV, "Adaptive Response and the Special Senses," and Unit V, "The Structural and Functional Relationships for Human Reproduction and Development." There is a glossary at the end and an impressive annotated bibliography.

The book is excellent in all of its aspects and should be a part of every library for use as a reference.

Nutrition and Diet Therapy.

By Fairfax T. Proudfit, formerly Instructor in Nutrition and Diet Therapy, University of Tennessee College of Medicine and University of Tennessee School of Nursing; Director of Dietary Department, John Gaston Hospital, Memphis, Tennessee, and Corinne H. Robinson, Professor of Home Economics and Head, Department of Foods and Nutrition, College of Home Economics, Drexel Institute of Technology, Philadelphia, Pennsylvania; formerly Instructor in Nutrition and Diet Therapy, Temple University School of Nursing and University of Pennsylvania School of Nursing. Eleventh edition. The MacMillan Company, New York, 1955. Pages 859. Price $5.25.

Modern research in nutrition has focused attention on the varying nutritional needs of individuals and the function of nutrients in the human body. It is a known fact that under-nutrition through poor dietary planning and faulty eating habits prevails in high economic groups as well as in the very low economic levels of society.

(Continued on page 30)

CLASSIFIED ADVERTISEMENTS

CLASSIFIED ADVERTISING

15c per word, minimum charge $6.00. Capitals, or bold face, $2 per line extra. Lines of white space, $2 per line extra. Telephone orders not accepted. No agency commission allowed. Closing date for advertisements: 15th of 2nd month preceding publication date. Advertisements which arrive too late for insertion in one issue will automatically go into the next issue unless accompanied by instructions to the contrary. The publishers reserve the right to refuse or withdraw any advertising, at their discretion, without advance notice. Send ads with remittance to: Classified Ads, Nursing World, 270 Madison Ave., New York 16, N. Y.

REGISTERED NURSES: New 40-bed hospital, Texas Vacation Land, near large cities. Excellent salary and personnel policies-all shifts. Write Administrator, New Braunfels Hospital, Inc., New Braunfels, Texas.

PUBLIC HEALTH NURSES for general family and community health service. Start $360, increases to $417 per month in valley area; start $378 in desert area. California PHN certificate required. Many employee benefits. Write San Bernardino County Personnel Dept., 236 3rd St., San Bernardino, Calif.

NURSES (REGISTERED): For Med., Surg., Ortho., and Urol. Services. 200-bed hospital in Upstate Medical Center. Tuition Benefits at Syracuse University. 40 hour week. New York State Registration required. Salary according to experience. Write: Director of Nursing, Good Shepherd Hospital, 150 Marshall Street, Syracuse 10, New York.

OPERATING ROOM SUPERVISOR: Modern 400 bed Hospital. Well qualified person needed. Salary commensurate with experience. Liberal personnel policies. Apply Superintendent of Nurses. York Hospital, York, Pennsylvania.

SUPERVISORY AND GENERAL DUTY—For positions in general hospital, suburb Nation's Capitol. New air-conditioned Wing includes operating suite, three patient units. Features piped in oxygen and nurse call system. 40-hour week, merit increases, other employee benefits. Nearby Universities for continued education. Write for information, Suburban Hospital, Bethesda, Maryland.

ADMINISTRATIVE SUPERVISOR OBSTETRICS: 36-bed unit, supervision of nursery, delivery, post partum. Salary $4200.00, housing available, one month vacation, Blue Cross and Blue Shield, Group Insurance, Pension, 40 hour week, 270-bed teaching hospital—School of nursing. Northwestern University campus. Passavant Hospital, 303 E. Superior St., Chicago 11, Ill.

OBSTETRIC-INSTRUCTOR SUPERVISOR Obstetric experience required, degree desired. 300 bed general hospital, maternity department averaging 1500-1800 deliveries. Salary and maintenance open. Apply: Director School of Nursing, Washington County Hospital, Hagerstown, Maryland.

OVERSEAS JOBS: Interested in overseas nursing? Many companies need nurses in their dispensaries and company-owned hospitals. Send $1 for list which includes a large number of companies operating in foreign countries. Satisfaction guaranteed. Len Rathe, Box 173, New Orleans 3, La.

SUPERINTENDENT OF NURSES: ($5,512 to $7,078 annually) Vacancy to occur within next few months. This is an ideal position in a 3,000 bed mental hospital with 500 employees in the nursing service. The hospital has a psychiatric affiliation with 40 student nurses. It is located in Traverse City, which has a population of 16,000 and is 250 miles northwest of Detroit in the heart of Michigan's resort area. For further information write to Michigan Civil Service Commission, Lansing 13, Michigan.

"YOUR POCKET PAL." THE KENMORE NURSE'S KIT with sealed edge. Holds your pen, pencil, scissors and comb, also key section and purse. In white box calf. Save uniforms, laundry bills and time. **THE PERFECT GIFT!** $1.00 postpaid; $7.50 per doz. Order direct from 8718 Ashcroft Ave., Hollywood 48, Calif.

STAFF NURSES—600-bed gen. hosp. with School of Nursing. Salary $273-$322, shift and education differential, 40 hr. wk., 12 holidays, accum. s. l., 3 weeks vacation Apply Director of Nursing, Fresno General Hospital, Fresno, Calif.

HAVE OPENING for Nurse Anesthetist in 50-bed hospital. Good working conditions. Salary $450.00, Up. Coon Memorial Hospital, Denver Ave., at Texas Boulevard, Dalhart, Texas.

BOOK MANUSCRIPTS CONSIDERED

by cooperative publisher who offers author early publication, higher royalty, national distribution, and beautifully designed books. All subjects welcomed. Write, or send your manuscript directly.

GREENWICH BOOK PUBLISHERS
Attn. Mr. Vickers 489 Fifth Ave.
New York 17, N. Y.

CAR EMBLEM—RN insignia—attached to the top of your license plate—wins traffic courtesies. It's introduction on the road wherever you go. Attractive colors-rust-proof—4" diameter. Money-back guarantee $1.49—2 for $3.50 postpaid. Also available A complete front car license plate with RN insignia—usable in all "one-plate states" 13 inches x 6 inches. Distinctive outdoor colors. Easily attached to license plate holder. Money-back guarantee. $1.98 postpaid. STA-DRI Co., 6th Ave., Dept. 47U-6 Whitestone, L. I., N. Y.

NURSE ANESTHETISTS: Modern 400 bed hospital. Staff of 5 nurse anesthetists and 1 anesthesiologist. Salary up to $400.00 and other benefits. For particulars contact Vincent A. Kehn M.D., Chief Anesthesia York Hospital, York, Pennsylvania.

Rheumatic Fever . . .

(Continued from page 17)

nurse may indulge. Prophylaxis is the best insurance we can give, at the present time, against damaging cardiac disease, and a close follow-up of patients in this age group to prevent erratic dosage of the drugs is essential. The nurse, therefore, contributes many and varied benefits to medical supervision of the adolescent.

To have all concerned—the parent, nurse, doctor, social worker, teacher, and most of all the patient—work together and understand the nature of the illness, the necessity for protection, and the way the adolescent can best assume a positive attitude toward his future is a monumental job, but only by achieving it can we expect to help the ambitious and independent adolescent to live with his disease within the limits of physical capabilities and emotions without denying him the hopes that are an integral and vital part of his outlook on life.

The Book Shelf . . .

(Continued from page 29)

In this eleventh edtion, nutrition is viewed in its broadest scope. The fundamental principles of normal and therapeutic nutrition are outlined and application is made to food needs of individuals in all age categories. Much of the material in this book is new and many chapters have been completely revised to bring them up to date. The dietary calculations and charts are based on the 1953 revision of the Recommended Allowances. Two tables, one a Summary of Minerals and the other a Summary of Vitamins, are complete with new and current information. Students will find these extremely helpful when reviewing these topics.

The book is divided into five sections: Section 1, "Normal Nutrition," Section II, "Normal Nutrition in Special Conditions," Section III, "Diet Therapy," Section IV, "Practical Applications of Nutrition, Elementary Cookery," and Section V, "Recipes." An extensive appendix contains interesting tables about composition of foods and height and weight tables for all age groups. The book is intended as a text for nursing students. However, nurses engaged in the various specialties where nutrition and diet therapy are a part of the teaching program will also find this book an invaluable reference.

MOVING?

When changing your address please notify our circulation department in advance, if possible. This is to your advantage, since it takes approximately five weeks to have your stencil changed. Correspondence pertaining to subscriptions should be sent to the Circulation Manager, 814 H St., N. W., Washington 1, D. C. Correspondence concerning editorial matters should be addressed to NURSING WORLD PUBLICATIONS, INC., 41 East 42nd St., New York 17, N. Y.